

**IVAN SACK:  
FORESTER LOST IN THE WOODS,  
SAILOR LOST ON ROCKS AND SHOALS  
MY CAREERS WITH THE FOREST SERVICE AND THE U.S. NAVY**

Interviewee: Ivan Sack  
Interviewed: 1975  
Published: 1978  
Interviewer: Mary Ellen Glass  
UNOHP Catalog #079

**Description**

Ivan Sack was born in Colorado in 1908. He spent the early years of his life in Iowa, where he attended schools and Iowa State University. His youthful interest in botany and forestry later developed into a career with the U.S. Forest Service. There he spent many years actively engaged in the agency's missions of conservation, fire fighting and wildlife management. The national forests in which he worked include many important ones in the West: Lassen, Plumas, Los Padres, Trinity, Modoc, Sequoia, Uinta-LaSal, and finally, Nevada's Toiyabe. He was Supervisor of the Toiyabe National Forest when he retired in 1965. Mr. Sack held many positions in the Forest Service which not only gave him an extensive knowledge of his work, but also of the plants and animals within this vast area. He is recognized as an authority on western botany, and has written numerous works on the plants of the region.

During World War II, Mr. Sack joined the U.S. Navy and was assigned to photo interpretation units in the Pacific combat zone. At the same time, he produced a book on the vegetation of the area.



**IVAN SACK:**  
**FORESTER LOST IN THE WOODS,**  
**SAILOR LOST ON ROCKS AND SHOALS**

---





**IVAN SACK:**  
**FORESTER LOST IN THE WOODS,**  
**SAILOR LOST ON ROCKS AND SHOALS**  
**MY CAREERS WITH THE FOREST SERVICE AND THE U.S. NAVY**

An Oral History Conducted by Mary Ellen Glass

University of Nevada Oral History Program

Copyright 1978  
University of Nevada Oral History Program  
Mail Stop 0324  
Reno, Nevada 89557  
unohp@unr.edu  
<http://www.unr.edu/oralhistory>

All rights reserved. Published 1978.  
Printed in the United States of America

Publication Staff:  
Director: Mary Ellen Glass

### **University of Nevada Oral History Program Use Policy**

All UNOHP interviews are copyrighted materials. They may be downloaded and/or printed for personal reference and educational use, but not republished or sold. Under “fair use” standards, excerpts of up to 1000 words may be quoted for publication without UNOHP permission as long as the use is non-commercial and materials are properly cited. The citation should include the title of the work, the name of the person or people interviewed, the date of publication or production, and the fact that the work was published or produced by the University of Nevada Oral History Program (and collaborating institutions, when applicable). Requests for permission to quote for other publication, or to use any photos found within the transcripts, should be addressed to the UNOHP, Mail Stop 0324, University of Nevada, Reno, Reno, NV 89557-0324. Original recordings of most UNOHP interviews are available for research purposes upon request.

---

# CONTENTS

|                                                 |    |
|-------------------------------------------------|----|
| Preface to the Digital Edition                  | ix |
| Introduction                                    | xi |
| 1. Childhood Through High School                | 1  |
| 2. College Years                                | 7  |
| Coming West                                     |    |
| 3. Early Working Experiences                    | 15 |
| Plumas National Forest                          |    |
| Firefighting                                    |    |
| Feather River District                          |    |
| 4. Trinity Forest                               | 27 |
| Primitive Air Pollution                         |    |
| 5. Modoc Forest, 1935-1936                      | 35 |
| Uniform Changes                                 |    |
| Devil's Garden District                         |    |
| AAA Work in California                          |    |
| Tahoe Forest, 1937                              |    |
| 6. Sequoia National Forest, 1937-1939           | 45 |
| Assignment to the Regional Office San Francisco |    |

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| 7. Wildlife Management in California                                    | 57  |
| California Condor                                                       |     |
| “Doc” Shantz                                                            |     |
| Trout                                                                   |     |
| On the Forest                                                           |     |
| Forest Service Manuals                                                  |     |
| 8. Back to the Modoc, 1941                                              | 75  |
| 9. World War II Experiences                                             | 81  |
| Preparations to Leave                                                   |     |
| Pearl Harbor, Photo Interpretation                                      |     |
| Guadalcanal                                                             |     |
| Extra-Curricular Activities                                             |     |
| Photo Intelligence Work                                                 |     |
| 10. “Call Me Ranger”                                                    | 105 |
| Life Among the Mormons or A Transfer to the Uinta-LaSal National Forest |     |
| “A Decade of Inspections”                                               |     |
| 11. On the Toiyabe National Forest, 1951-1965                           | 119 |
| Land Acquisition for National Forests                                   |     |
| Some Duties of a Forest Supervisor                                      |     |
| Development of Slide Mountain Ski Area                                  |     |
| Forest Public Relations                                                 |     |
| Fire and Water                                                          |     |
| Captain Whittell’s Development of Reno Bowl Highway                     |     |
| Organizations and Foundations                                           |     |
| Donner Ridge Fire, 1960                                                 |     |
| Other Activities of the 1960s                                           |     |
| Central Nevada                                                          |     |
| Organization of UNR Renewable Resources Program                         |     |
| 12. Retirement; Work; Travel                                            | 167 |
| Review of Work with Mono and Alpine, California Counties                |     |
| New Job: Natural Resource Consultant                                    |     |
| Work for UNR: Teaching and Land Acquisition                             |     |
| Commissions and Boards                                                  |     |
| Reno City Park Superintendent                                           |     |
| TRPA                                                                    |     |
| Traveling Days                                                          |     |
| Original Index: For Reference Only                                      | 197 |

---

## PREFACE TO THE DIGITAL EDITION

Established in 1964, the University of Nevada Oral History Program (UNOHP) explores the remembered past through rigorous oral history interviewing, creating a record for present and future researchers. The program's collection of primary source oral histories is an important body of information about significant events, people, places, and activities in twentieth and twenty-first century Nevada and the West.

The UNOHP wishes to make the information in its oral histories accessible to a broad range of patrons. To achieve this goal, its transcripts must speak with an intelligible voice. However, no type font contains symbols for physical gestures and vocal modulations which are integral parts of verbal communication. When human speech is represented in print, stripped of these signals, the result can be a morass of seemingly tangled syntax and incomplete sentences—totally verbatim transcripts sometimes verge on incoherence. Therefore, this transcript has been lightly edited.

While taking great pains not to alter meaning in any way, the editor may have removed false starts, redundancies, and the “uhs,” “ahs,” and other noises with which speech is often liberally sprinkled; compressed some passages which, in unaltered form, misrepresent the chronicler's meaning; and relocated some material to place information in its intended context. Laughter is represented with [laughter] at the end of a sentence in which it occurs, and ellipses are used to indicate that a statement has been interrupted or is incomplete...or that there is a pause for dramatic effect.

As with all of our oral histories, while we can vouch for the authenticity of the interviews in the UNOHP collection, we advise readers to keep in mind that these are remembered pasts, and we do not claim that the recollections are entirely free of error. We can state, however, that the transcripts accurately reflect the oral history recordings on which they were based. Accordingly, each transcript should be approached with the

same prudence that the intelligent reader exercises when consulting government records, newspaper accounts, diaries, and other sources of historical information. All statements made here constitute the remembrance or opinions of the individuals who were interviewed, and not the opinions of the UNOHP.

In order to standardize the design of all UNOHP transcripts for the online database, most have been reformatted, a process that was completed in 2012. This document may therefore differ in appearance and pagination from earlier printed versions. Rather than compile entirely new indexes for each volume, the UNOHP has made each transcript fully searchable electronically. If a previous version of this volume existed, its original index has been appended to this document for reference only. A link to the entire catalog can be found online at <http://oralhistory.unr.edu/>.

For more information on the UNOHP or any of its publications, please contact the University of Nevada Oral History Program at Mail Stop 0324, University of Nevada, Reno, NV, 89557-0324 or by calling 775/784-6932.

Alicia Barber  
Director, UNOHP  
July 2012

---

## INTRODUCTION

Ivan Sack was born in Colorado in 1908. He spent the early years of his life in Iowa where he attended schools and Iowa State University. His youthful interest in botany and forestry later developed into a career with the U.S. Forest Service. There he spent many years actively engaged in the agency's missions of conservation, firefighting and wildlife management. The National Forests in which he worked include many of the important ones in the West: Lassen, Plumas, Los Padres, Trinity, Modoc, Sequoia, Uinta-LaSal, and finally, Nevada's Toiyabe. He was Supervisor of the Toiyabe National Forest when he retired in 1965. Mr. Sack held many positions in the Forest Service which not only gave him an extensive knowledge of its work, but also of the plants and animals within this vast area. He is recognized as an authority on western botany and has written numerous works on the plants of the region.

In World War II, Mr. Sack joined the U.S. Navy and was assigned to photo interpretation units in the Pacific combat zone. At the same time, he produced a book on the vegetation

of the area. Following his retirement from the Forest Service, Ivan Sack has enjoyed a busy consulting practice and a stint as superintendent of the Reno city park system.

When invited to participate in the Oral History Project, Mr. Sack accepted graciously. Through twenty-six taping sessions, held in the Oral History office in the university of Nevada, Reno Library between November, 1974 and March, 1975, he recounted his life story in exceptionally well organized fashion, with scientific attention to detail. He often referred to books and papers which became part of his collection deposited in the Reno campus Library. Mr. Sack's review of his oral history transcript resulted in no significant changes in language and in the inclusion of several written additions to the script to clarify or amplify points.

The Oral History Project of the University of Nevada, Reno, Library preserves the past and the present for future research by tape recording the recollections of people who have been important to the development of Nevada and the West. Transcripts resulting

from the interviews are deposited in the Special Collections departments of the University Libraries at Reno and Las Vegas. Ivan Sack has generously donated the literary rights in his memoir to the University of Nevada, and has designated the volume as open for research.

Mary Ellen Glass  
University of Nevada, Reno  
1978



---

## CHILDHOOD THROUGH HIGH SCHOOL

For me it is an honor to participate in the University of Nevada Oral History Project. I appreciate the opportunity and know my children will as time goes on. My affection has moved from Iowa and my Alma Mater to Nevada and this University as following pages indicate, so on with the story.

My father was born in Illinois in 1880, and lived on the Mississippi River. Loved to hunt and fish. Perhaps his influence later motivated me to that desire. When he was sixteen he migrated to Colorado to avoid his stepmother. He used all the money his father gave him for a train ticket. Fell in love with the Rocky Mountains and was very interested in the natural resources and the forest reserves. However, after finishing high school, he went back to Valparaiso University and graduated as a pharmacist. Then on his way back to Colorado, he met my mother, who was a schoolteacher in Rippey, Iowa. They were married. He was a pharmacist there for a year or two until they could return to Colorado, Alamosa, where he had a drugstore, and I, as their first child, was born October 4, 1908.

That was just the time that President Theodore Roosevelt was by proclamation establishing many national forests in the West, including those in Nevada, California, Utah. Some were reserves established prior to that in 1897 by the original Organic Act. But that interested my father almost to the extent of deserting his profession in pharmacy to become a forester.

In those days to be a forest ranger, it required an examination that included packing a horse and or a mule, and shoeing a horse. And every forest ranger had to provide his own stock and his salary was the munificent sum of ninety dollars a month.

My father never was a great man around livestock. I believe this precluded his intent to be a forester instead of a pharmacist. My mother was better with stock. When they used to go out for buggy rides, she was the one that did the driving. But anyway, with the background in pharmacy, he was a fairly good botanist, and I think a conservationist, which influenced me in later years.

Soon after that, because of his health, they moved to Iowa for the lower altitude. I think I was about two years old at the time—about 1910. We lived at first at Ames, Iowa, where Iowa State *College*, as it was known at that time, was located. And not my first memory, but one of my first was to see the college students come downtown to parade after winning a football game [laugh] - Even at that age, I hoped at some time when I was growing up, to go to Iowa State.

I think really my first memory was when my sister [Lucille] was born, when I was four years old, in 1912. She lived until she was eight. At that time I was twelve. And she died of pneumonia. It was the first death in the family— a terrible shock—and had some influence on us I think, much the rest of our life.

Soon after that World War I came along. Being still quite young, it nevertheless impressed me greatly. We lived in Des Moines at that time, and Camp Dodge was nearby, where the Rainbow Division was training. My mother and father would take me out to the camp to see some of our friends, including my uncle. For that camp, it consisted mostly of pup tents, living out on the flat, not like the shelters provided in training camps in World War II.

When the Rainbow Division embarked on trains to go to France, my mother took me down to see them off. She had a tear on her cheek, partly because my uncle, her brother was on the train. But I couldn't understand it. I thought what a wonderful opportunity to see the world, go to war for our country. I think this influenced me through quite a bit of my life later.

My mother was very religious, a devout member of the Church of Christ, some of which was by the influence of her mother—who interpreted the Bible absolutely literally. And my mother did to quite an extent in

her middle—up to her middle years. Never missed Sunday school or church until a month or two before her passing away in August of 1974.

My father never belonged to a church, but he has been known to preach a sermon as a substitute for the minister who was absent.

Both of them with their high principles was a good influence for me. They were both teetotalers although my father and I made a jug of wine, grape wine, once, and enjoyed one or two glasses of it about once a week. My mother tasted it, made the comment that that grape juice had spoiled. And so she boiled it [laughs]. So that was the end of us as alcoholics. The only thing that was fermented at our home was sauerkraut. We made a big keg of it each fall, and I still miss it.

During the teenage days, we were experimenting, learning we thought, how to smoke. We didn't have real tobacco so we smoked corn silks or grape leaves wrapped up in newspaper. But, we as children, played along the river in patches of *Cannabis sativa*, which now is known as marijuana. And my father knew that it was narcotic but didn't tell me. By some fortune, we didn't as children become addicted to this drug.

Well then I started to grammar school during World War I. Remember Hoover and his "save the food" campaign. And about the end of World War I in Des Moines I saw my first airplane. Well, the airplane that we saw was about Armistice Day, and a biplane open cockpit, probably like a Jenny or a DeHaviland. I wasn't able at that time to recognize aircraft from the ground. I remember my first automobile ride, when I was about five years old, in an old, I believe, a three-cylinder Studebaker. An open car, which was quite the thrill.

I would like to return back to World War I to report a remembrance. In 1916 or '17,

the U. S. Army sent timber cruisers along the Des Moines River and major tributaries of the watershed, looking for mature, virgin, black walnut. They were seeking these trees for lumber from which to make gunstocks. And as kids we had mixed emotions about this. We knew where the big, black walnut trees were, because that's where we gathered the nuts in the fall. In fact, it was obvious in grammar school when the walnut nuts were being harvested, because our hands were stained dark brown up to our wrists. The stain could not be removed by soap and water. We just had to wear it off. But anyway, we were interested in the cruisers finding the walnuts, because we wanted to "Beat the Kaiser and the Huns." Perhaps subconsciously that is when I first became interested in forestry and the distribution of trees, not only walnut, but also the native white and red oaks. And about that time I had a great admiration for the fine quality of wood from both of these trees. I made, in manual training, a candlestick holder out of beautiful, native walnut. It's too bad the craftsmanship was not as good as the quality of the wood. Also made a chest out of native red oak. I'll mention, as time goes on, the distribution of species of trees.

Soon after World War I, we moved to a town in Iowa named Storm Lake. And that's where I learned to swim and also fish, with the help of both my mother and father. They were both ardent anglers. The first savings account I ever had was from catching bass and crappie. The limit was ten. We could only eat two because my father didn't care for fish. And I'd take the other eight, after I'd cleaned them carefully, to the butcher shop and sold them. I think I got twenty cents a pound. And saved enough for a savings account. It was almost clear profit. It cost ten cents for a dozen minnows as bait to catch the fish [laughs].

My father was an enthusiastic waterfowl hunter. In Iowa we didn't have big game. Deer have now increased enough so they can have a hunting season, but at that time it was either ducks and geese, cottontail or squirrel. Well, I hunted the cottontail, and once in awhile even the jack rabbit and the squirrel. But my father would take me on hunting trips for ducks and geese.

One of the most pleasant hunting trips I ever went on was skating down the Raccoon River, and where there would be a riffle or two that didn't freeze, a duck or two would jump up. Then we'd shoot 'em. And by the time I had my limit, I was almost twenty miles down the river from home. So it was quite a struggle 'til late that evening, skating back up the river, carrying a shotgun and a limit of ducks [laughs].

Soon after that, it may sound as a coincidence, we moved to Sac City. That is an Indian name for a tribe and not my family name. I think I was in the fourth grade at that time. And enjoyed childhood, as understood even at that age, in sports, especially sandlot baseball. I thought football was the most thrilling game ever invented although too young and small to play. I went through the rest of grammar school in this town, and then in junior high began to play basketball, football, and on the junior team. I'll mention athletics as we go along, but I never was a great star. I wasn't heavy enough to play on the line, and I lacked coordination to play on the end or the backfield. In basketball the same way. I could run fast enough, but I couldn't do anything else while I was running [laughing].

In the fall, it was customary for us young men, even some girls, to work at the corn canning factory. The first year, I think I was a junior in high school, I had a job cuttin' the rotten spots out of ears of corn on the night shift. I was going to school and practicing

football from four to six at night, then I'd go up to the factory and work to get a little spending money. One evening my coach suspected that some of we football players were goin' up to the factory to date girls when they got off shift. So he went up and investigated, and found me sittin' with an apron, cuttin' corn. Well, he went to my father and explained to him that I was busy in school, workin' awful hard on the football team, realized that every little bit of money helps, but wondered if it would be necessary for me to continue on at the canning factory. And my father didn't know I was workin' up there. So anyway it frosted, and that was the end of the canning season.

But even up 'til the night before I went to college, I worked the canning factory to get some school money. I worked there in '29 as well.

I was more interested in athletics than I was in scholastics. I made the team, but I never made the honor roll [laughs]. And I was a little lazy, too. I remember when I was a junior and liking the out-of-doors, I had to write a book review. The book I selected was *African Game Trails* by Theodore Roosevelt, before he was president. Incidentally, my family and I always admired him. Well, that was all right for my junior year for an assignment, but I saved the copy and turned it in [laughs], in literature, my senior year. So I lacked a little industry.

During that time, my junior year, is when I decided I wanted to be a forester. One of my teachers had a boyfriend at Harvard, and he sent her a pamphlet about the Harvard arboretum. Of course, my mother and father both somewhat botanists, I had sort of an environment—interested in that with fishing, hunting before. So I read this pamphlet and decided I wanted to be a forester [laughs].

So then the rest of the time in high school, I tried to take courses that were related

to forestry. Nowadays, mathematics is an important discipline for any profession, but I wasn't very good in math, so I didn't think I ought to be an engineer. I wanted to work outside. I didn't want to be a farmer. I'd been a hired hand, and that was sort of drudgery and uninteresting. So even in the corn fields of Iowa, forestry appealed to me. The only courses I could find was normal school geography and biology that had any reference to forestry.

My father encouraged me to study Latin because so many scientific names are Latin derivative. And it was helpful. It still is.

In my early high school year, we had the first "father and son banquet" in our little town. The town was only about 3,000, and it hasn't changed much since. But this was a new innovation for the sons and fathers. They had a banquet and perhaps there was oh, a hundred fathers and a hundred sons. But we sort of got mixed up. There was a friend, a dentist in town, that had no sons, and he asked me to go to the banquet as his adopted son. And I accepted before my father had a chance to ask me to go with him. So then my father took another boy who didn't have a father. I think that motivated him to help high school students, both boys and girls, from there on. He not only helped them financially, if they were deserving in high school, he helped several in college. And was so well liked and so well known that one yearbook was dedicated to him.

About the time I was in the ninth grade, I worked part time at a Ford garage. You might say a grease monkey, because I really got greasy. Each Christmas vacation I worked for them, making an inventory of all of the parts, counting everything from small nuts and bolts up to engine blocks. I carried this on every Christmas until I left Sac City to work in the West. Also at that time, Model T

Fords came in boxcars, knocked down and stacked up, and I had a contract to assemble them, just as a high school kid. They paid me five dollars a car, and if I worked ten hours a day, in six days I could put together seven of 'em, which was thirty-five dollars—fairly good pay for a kid in those days [laughs]. And that mechanical experience proved helpful when I drove a Model T Ford from Iowa to Reno, Nevada in 1930.

The summer after I graduated from Sac City High School [1927], the nearest local employment that I could find to forestry, in my mind, was working in a greenhouse. My mother had a green thumb, and my dad was a botanist so I had the prerequisites. Also I had a strong back. I shoveled dirt many days, ten hours a day, to change the benches in the greenhouse at a 118-degree temperature and almost 100 percent humidity. The owner was a former school superintendent, who also was a botanist. So a little of his knowledge brushed off on me.



---

COLLEGE YEARS

One of the more affluent families—their son was gonna go to college [1928] as a freshman—and they were packing his wardrobe, and they came up to see me at the [corn] factory to see if twelve white shirts would be enough to take. And I replied, “Well I think so, because I only have two!” [Laughs.]

Which reminds me of a thing customary in those days in college that we don’t see now, where the students had a laundry bag and they’d pack it, and send it home with soiled clothes, and the family would do the laundry and then send it back to them. Well I never had a laundry bag because I didn’t have enough to put in it. I’d either wash my own clothes or, once in awhile, for special occasions, would take a shirt to the laundry.

One of the highlights that I still remember was at the end of my freshman year in forestry when we went to a summer training camp in northern Idaho. Hayden Lake was the location of the camp. But we toured the whole panhandle from Coeur d’Alene clear up to Canada, and even once across the border. We learned forest management,

silviculture, surveying, logging, and of the timber industry. But my interests really were focused on plant identification. The flora of northern Idaho fascinated me.

We had one professor that was a fairly good botanist, who helped me. I collected flowering plants that summer. Incidentally, my father gave me a plant press to take with me. I didn’t realize the use of it at the time, but I’ve used one almost ever since.

I was a fair swimmer. Even passed the senior lifeguard test at college in the freshman year and was a lifeguard at a nearby lake. But the Idaho lakes fascinated me, and I swam across Hayden Lake several times. Once I remember, and it was a stupid thing to do, I swam across to a YWCA camp without a boat accompanying me. Well, I thought that would be quite romantic to swim up to the shore where the YWCA girls were out on the beach, and they gave me a friendly welcome. The boat was supposed to come and pick me up later. Well, about sundown, the girls lost interest in the beach and interest in me, and there was no sign of the boat. So in my



swimming trunks, nothing on my feet, I had to walk back to camp about two miles in the dark, 'round the shore of the lake.

Another time I swam across the lake with a boat later. And got a cramp and had to crawl in the boat. So I was fortunate with my lack of judgment on the first trip.

I've often—or ever since, I've wanted to go back to that area and see how it'd changed since 1928. I still hope to do that, and as we'll mention later, I've tried to see the areas that I was acquainted with forty years previously. But I've never been back there 'cept to fly over it.

At the end of the first quarter in my freshman year, when I went home for Christmas, I decided that the amount of money that it [college] cost, it wasn't worth it! [Laughs.] And I wasn't doing too well in chemistry. And discussed that with my mother and father, and in about an hour's time it was settled that I was going back to Iowa State, and he tutored me in chemistry during the Christmas vacation.

Also during this time I had one of my best friends, Carl Olson whose father was a veterinarian. Neither one of us had a great number of real close friends. I never did have an excessive number. They were either in the minority or were just general friends, you might say. But we worked together. His father being a veterinarian and my father being a pharmacist, I supplied the medicine and he had the implements and we'd go out and doctor horses, before either one of us [laughs] were allowed to, you might say, practice pharmacy or veterinary medicine. And that Christmas vacation we gave horses and mules capsules for the botfly. I'd hold the animal, and my friend would shoot the capsule gun. We were going to college together and we belonged to the same fraternity, Pi Kappa Phi.

I mentioned previously I studied Latin. When I got to college I decided I wanted to take some Greek because some of the scientific names were also derived from the Greek language. Only Iowa State had no course in Greek so the nearest that I could do to that was to join a Greek letter fraternity.

This may be incidental, but Carl graduated from college before he was old enough to practice, and went to Mayo's and got a Ph.D., as well as a doctor of veterinarian medicine. Now he is the head of a laboratory of medicine in Wisconsin, University of Wisconsin, trying to associate cancer of the horse with that of humans.

During my high school days, typical of all high school students, there were distractions that might have diverted us from a career that we had chosen. Nowadays, there are so many distractions, it's almost a marvel to me that students sometimes ever follow the course that they desire.

During my years in high school, I thought I wanted to study forestry, but with my experience previously mentioned with my friend who was gonna be a veterinarian, I thought for awhile of also becoming a veterinarian. But then when I discovered that I -couldn't stand to see animals suffer—I had the urge to put them out of their misery, and if you do that you lose a patient—I decided that that wasn't for me. Incidentally, also, in our experience as pseudoveterinarians, might mention that we altered most of the stray dogs and cats in the neighborhood.

Another possible diversion from my forestry course was that my high school football coach wanted me to go to a little nearby college, Buena Vista, to play football. But there wasn't any more to offer in the line of forestry there than there was in high school, and I made it plain that I wanted to go to Iowa State.



Then after I was in college, if I'd taken bacteriology the first quarter instead of the last quarter, I might've been enticed to become a bacteriologist. It was a five-hour course under the dean of the graduate school. Very fortunately I had Dr. R. E. Buchanan as my professor. And one of my most thrilling experiences was to culture bacteria, stain them, process them for slides, and then identify them. But that was a little too late to turn back.

In 1927 and '8 at college, I was very fortunate to have as a botany professor, Louis H. Pammell, who was a pioneer in the field of bacteriology and also wrote the large volume *Poisonous Plants of North America*. He was a kindly old gentleman, who was never known to have failed any student but his own son. And he liked foresters. But Swede Intermill, a classmate who I will mention later, wasn't too adapted to botany. And I think the only generic name he had learned up to that time was *Acer*, for maple. Well, we had to keep Swede eligible for football as a tackle, so I helped tutor him. And Dr. Pammell arranged for us to go in pairs for oral examination for the final. Well, Swede paired up with me, and we had it arranged that when the doctor would ask a question, if Swede could answer, I'd pause and give him a chance. Then if Swede couldn't, I'd try to. For example if he asked what the fruit of an oak tree was, Swede would know that it was an acorn. But if he asked for the generic name, I'd pitch in and say, "*Quercus*." I learned that in my high school days in Latin.

I mentioned how the World War I impressed me. In 1925, I went to the Citizens Military Training Camp at Fort Snelling, which lies between Minneapolis and St. Paul. And enjoyed it, was thrilled. Our platoon was awarded first prize for best drilled unit at the camp. There was probably oh, 2,000 young

fellows at the camp at that time. Platoons, and companies, and even battalions. I followed that in '27, and then I had to skip it in '28 because I went to a forestry summer camp in Idaho. Then in '29 went back, and almost attained the rank of second lieutenant in the Army Infantry that helped me when I went to college in '27 in ROTC, at which time [in] two years or more, I almost attained commission as second lieutenant in the Field Artillery. But as I'll point out later on, World War II, I decided I didn't want either one of those.

In 1927 I attended this camp at Fort Snelling. And our company was chosen as the guard of honor for Charles Lindbergh, when he flew the "Spirit of St. Louis" to Minneapolis sort of as a homecoming for him. We not only helped hold back the crowds when he arrived, but also guarded the "Spirit of St. Louis" until it was secured in the hangar. We had a four-mile march over to the airstrip, and of course, the same distance back. And by the time we returned late that evening, we'd had a big day. Our uniforms were of the World War I vintage—campaign hats, wrap leggings (officers wore puttees), and scratchy wool shirts. But I wore these with pride.

At camp that year, I qualified for a marksman and sharpshooter medal on the rifle range, shooting a distance of two hundred yards. My father's previous training in the use and respect for firearms paid off. I hope I conveyed the same teaching to my son many years later. At least he disassembled a gun, learned all the names of all the parts and the function of each before he ever fired the arm. This was easy for him though, because he was mechanically inclined.

At that same camp, they had a big track meet. The company entered me to run the four-forty (440). I was coasting along, way ahead of the pack. My wind was good, feeling strong. Just before the finish line, my legs and

my muscles tied up, and I barely finished second to get a silver medal, under great pain.

I believe in high school, especially in athletics, if I ever learned anything it was to keep on trying, never to give up or quit. And I think in later years that paid dividends in fighting fires, floods, severe winter weather, blizzards, so forth. And then following on in World War II in combat during adversity.

Going to our forest summer camp in Idaho, I'd like to tell you about a snipe hunt that was far more elaborate than the ordinary ones where they just take the greenhorn out and leave him. Our evenings were rather dull. So Swede Intermill (and I mention him specifically because he'll occur several times later in my story) and I decided that we ought to have a snipe hunt. We then were prospecting for likely candidates. There was one little naive fella from Chicago, who had never heard of the sport. So he was our man. We arranged for him to hold the lantern and wave the lantern and hold the bag, and we'd make the drive. But we didn't end it there. We had previously conspired to have a local resident arrest him for hunting snipe out of season. And Jake faced the penalty of either fifty-dollar fine or a thirty-day stay in jail. He couldn't decide which was worse. If he had to go to jail, it would interrupt his schooling, and if he paid the fifty-dollar fine he wouldn't have money to go to school [laughs]. So we let the poor fella brood for about a day, and then we falsified a letter from the Idaho Game Department giving Iowa State students special permission to hunt snipe out of season since we wouldn't be there during the regular season, and Jake was excused from the penalty. So we took Jake out again. And we really made a drive. And we cursed him because the birds were either going above him or along the ground and he wasn't getting any. Then typical of other hunts, the rest went

back to camp, but I stayed nearby in case the lantern went out or he'd get lost. And he kept wavin' the lantern. A disgruntled lumberjack came along and saw the waving light and asked him what he was doing. Jake explained, and the lumberjack, in disgust, gave him the facts of life [laughs].

Before we continue with my early career, I feel there should be some confusion cleared up that may result in trying to follow somewhat of a chronological order. I started working for the forest service, west of Reno, in 1930, but I didn't graduate from college until 1933. So there's a kind of a overlapping. I'd either, after my sophomore year, work three to nine months, and then go to college three or six months—there's some other overlapping later on. Seems like I've lived a life of a three-ring circus. Sometimes after retirement (U.S. Forest Service 1965, USNR 1968), I've held so many jobs at the same time that I'm not sure which one I was moonlighting. As an example during 1969 [I] was teaching at UNR, was Reno Park Superintendent, Chairman of the Nevada-Tahoe Regional Planning Agency, and doing natural resource consulting in Idaho.

### COMING WEST

Going back I was seeking a summer job with the Forest Service early in 1930, and fortunately obtained a job with the California region as a field assistant in a range survey party that was a project called Range Reconnaissance, but I couldn't spell that large a word. We made the survey that summer, of eastern Plumas and southern Lassen county.

To reach the job, I drove a Model T Ford from Ames, Iowa to Reno. My previous experience mentioned in working on Model T's certainly paid dividends on the trip. At that time the only paved highway was a short

narrow ribbon of concrete from Fernley into Reno.

My first impression of Nevada was late at night because we elected to drive across the desert during the night instead during the heat of the day. At Wendover, the Ford needed water in the radiator, and I paid sixty cents a gallon to fill it up, more than even now at the present prices for gasoline. From there continued on to Wells, arriving there about daylight, and rolled out my bed in the sagebrush, and tried to get some sleep—which I did until the hot June sun bore down on me about nine o'clock in the morning. I woke up and felt quite disillusioned.

However, continued on and drove all the way to Winnemucca that day. Reaching Winnemucca late in the evening, stopped at a motel. Decided that I'd like to go downtown and buy a quart of milk. The only place with any light was in a hotel where they'd had a sort of a speakeasy and they were gambling. I never saw so many silver dollars in my life as stacked on the table. I realized that my request for a quart of milk was at the wrong place. Then the next day, June 12, 1930, continued on to Reno.

The stretch along by Battle Mountain was the worst washboard, gravel road that I had ever experienced. The desert dryness or the desert air had dried out the wooden wheels in my car, and the rims were coming loose from the fellies. Stopped in Reno, went to the hardware store and bought some stove bolts to repair the wheels. We went out to Steamboat Hot Springs for a swim. Then the next day continued on to Doyle, California. I wondered where the forests were. There are not too many in view from what is now Highway 395 north.

At Doyle, took off, went up the mountain to Meadow View guard station, and reported for work June 13, on a Friday, which was a lucky day for me! I met the chief of party,

Lloyd Swift, and others to be in the crew. I parked the Model T in the creek to soak up the wheels—never drove it again. I sold it to the guard for thirty-six dollars and ninety cents. The ninety cents was because there was ninety cents worth of gasoline in the tank.

Well, for a week they trained me how to make intensive range surveys. I had much to learn. The plants were new to me. In fact I'd never seen or heard of bitterbrush, rabbit brush, or mountain mahogany before. And it was required in our inventory to list each species by its scientific name. The boss and some of the other crew members were quite good botanists. We were especially fortunate to have Jess Fauns in our crew, who helped train me in plant identification. He knew practically all of them, even down to the subspecies in complicated genera such as *Carex*. Later headed the botany department at Colorado A and M.

After a week's training, they decided that I was competent to go on my own. Each one of us worked individually, surveying two sections or approximately twelve hundred and eighty acres a day—retracing section lines, looking for Land Office corners, mapping the forage types, and running traverses of any fences or drainages that crossed our line. I really enjoyed the work to the extent that I'd be willing to do it for no pay, if they'd feed me! I recently found a letter that I'd written to my parents about the time that I'd arrived on the job saying that "I have six dollars and fifty cents so I won't need any money all summer." From the thirteenth of June to the twenty-first of August, I never saw the bright lights even of a small town. So content being out in the woods.

As to wildlife, I have the recollection of seeing the first deer in my life. We saw four in the Dixie Mountain Refuge. What a contrast with today when you can see a herd of deer

in almost any locale on the east side of the Plumas Forest.

My first forest fire experience was in August when there was a fire burning near Diamond Mountain, south of Susanville. They sent us over to the fire to help out, without any experience; menial tasks was about all that I could perform.

About a month later, there was another fire near Milford. By that time we were experienced firefighters so they gave me a crew of four men on the night shift to help hold the line. As I recall, two of these were Russians, and two of them were some other nationality—none of which could speak English—and I wasn't too good at giving orders, being so inexperienced anyway. But we spent the night up on the mountain at the fire line and held our section. After the fire was controlled, they asked Jess (who I previously mentioned) and me to make a survey of the fire. So I was pulling chain, and Jess was following up and making notes, and I arrived at a yellow jacket nest right where the front of the chain stopped. Although they hit me a couple of times, I didn't say anything because I wanted to see Jess's reaction because he was always so calm and cool and collected. The fire'd made the yellow jackets angry, and I helped stir them up, and then at the end of the chain where Jess had to stop was right in the nest. And they really took after him. He threw his hat in the air and run down the hill—the only time I ever saw him disturbed.

One of the things I enjoyed on that summer's assignment was on Sunday we were able to take little trips—either to a fishing stream or a lake—and on one of those weekends I had the opportunity to see Lake Tahoe for the first time. I thought it was the most beautiful body of water I'd ever seen and wished that I could express my feeling such

as Mark Twain, but I'm neither a poet or a descriptionist.

We worked in the field then moving camp about once a month from Meadow View to Little Last Chance to Squaw Valley to Grizzly Valley and on to Mohawk where the rains closed the project down in the middle of September.

Two of us then went to Quincy, the supervisor's headquarters, to do the office compilation for the survey work that we'd done in the summer. That included preparing better maps on township plats and computing forage acres from the factors that we had collected during the summer. Each type and each section had to be calculated by area using a planimeter. This was all close tedious work, but I really enjoyed it because I was working for the Forest Service.

That winter, in November and December, when the snow came, the supervisor had us go out to get a little exercise on some days. The exercise consisted of going up on the mountain and burning accumulations of heavy fuel and snags to reduce the fire hazard. I'll discuss this at later times because I feel it's a very important thing that should have been continued, and even now since I've retired, I feel it's even more important.

At the end of the work, just before Christmas, I had another difficult decision to make, or you might say, as previously mentioned, a possible distraction. I was tempted to transfer to the University of Nevada. And looked into the prospects, and found, of course, they didn't have Forestry. But there were several courses in range management. I liked the town, the people, both on the campus and off. It was quite a temptation to forsake Iowa State and transfer here to the Reno campus. Another factor that had helped influence me was that I felt that I could make the football and basketball team

---

for the University where my chances at Iowa State in a bigger school were less optimistic. Another thing, my mother and father were at Long Beach, California for the winter so there really wasn't a home to go to. But after long deliberation, I decided I'd see my parents in Long Beach and then went back to Iowa State riding a Greyhound bus all the way without sleep, arriving at Ames just before the winter quarter began.

Looking back, I believe it was the right decision, because I still wanted to pursue forestry as a profession. Travel did cost more, but I'd had over two years there, and it's logical that I should have continued. My attendance was so erratic, because I was working so much, that my parents began to wonder if I'd ever get through. I should have graduated in June of '31 and didn't finish until March of '33. Which incidentally was at the very bottom of the Depression. It's just after President Roosevelt took office and declared a moratorium or a holiday for all banks.



---

## EARLY WORKING EXPERIENCES

### PLUMAS NATIONAL FOREST

When I graduated March 17, I only had fifty cents to my name. My parents and I both had accounts in the bank, but they were closed. In fact, even the fifty cents was the result of me selling one of my cherished textbooks, the *Manual of the Trees of North America* by Charles Sprague Sargent. It's out of print now. One of the old books that had gold-edged pages. I had to raise fourteen dollars and fifty cents for a diploma fee. So I sold the book for fifteen [dollars] leaving a balance of [laughs] fifty cents. My parents couldn't help me because we were all in the same bank. Fortunately I had a job with the Forest Service again, reporting to Quincy, California the fifth of May. But from the seventeenth of March 'til the fifth of May, I had to raise thirty-five dollars for a train ticket back to Quincy. So I was willing to do anything.

My first job upon receiving my B.S. degree in Forestry was to shovel sand in a cement mixer in the pouring of a floor for a honey warehouse that the neighbors were building.

But the money was scarce with them, too. So they paid me a quart of honey an hour [laughs]. After I was paid off with two cases of honey, I saw that that wasn't makin' much progress towards a train ticket.

Then I got a job spraying people's berry bushes and fruit trees. Through my father's connections, I was able to get the materials wholesale from a drugstore, and I sprayed at the rate of a dollar an hour, and I provided the material. That helped to amass a small fortune necessary, for my travel. Also at that time, it was just the first step toward the CCC program, and the city acquired some walnut and pine trees from the state nursery, and I was a crew boss—being a forester—planting these trees in the parks, along the river, and in the city cemetery. I found two of the trees last August that I had planted forty-one years previously.

So with that and other sources of help, I rode the train from Sac City to Salt Lake City, where I had to transfer to get on the Western Pacific. But there was a lapse of overnight. And so I went from the depot to the nearest



hotel for a cheap room. I've never been too particular, but I stayed in that room about two hours, and it was so bad that I gave it up and spent the rest of the night in the depot.

Arriving at Quincy on the fifth of May, my assignment was with Floyd Iverson, who will come in the story numerous times in the future. We went to Trinity National Forest to make a range survey of the Mad River district. I was to be chief of party, and Floyd was the crew. The first camp location was in Hoaglin Valley down on a tributary of the Eel River. We had no money. We borrowed fifteen dollars from the supervisor of the forest to take care of our incidentals. Of course the government was subsisting us. We did our own cooking. And as a result of eating beans from the same pot for six days, I had a touch of ptomaine. Being eighty miles from the nearest doctor, too far to go, when I got chills I'd go out and lay in the sun, and then when the fever came I'd go seek some shade. Recovered in several days.

We finished our work in that locality and moved over to Rock Creek, another tributary to the Eel River. Set up camp, and our head range examiner from San Francisco came up to visit us to check our work. He was very satisfied with the quality of surveying and mapping that we're doing, but he said he thought that we could spruce up in our appearance somewhat. And neither of us had shaved for almost a month. This was late in June.

Well, I told him, "When we get our first paycheck." They were late because of all the fiscal burden in setting up the CCC camps; that, when we got our pay we'd clean up and go to town, get some clothes.

Finally the check came in on the twenty-ninth of June. We drove to town, parked the car near the mercantile store. I didn't have a shirt, so I borrowed Floyd's shirt and went

shopping. Then went back to him, who was sitting in the car [laughs] because he didn't have any pants. So he borrowed my pants, and then he went shopping. Then we laid in a supply of groceries to last us a month. And happily went back to Rock Creek.

We finished our work there, and just as we were breaking camp to move to another place, an Indian named Yellow Jacket stopped to see us. And he carried a watch, but he couldn't tell time. So we set his watch for him and tried to teach him how to read it. And during this interval his dog was panting from the walk in there—went and laid in the creek, just above where we took out our water for camp use. Well, we didn't care because we were moving camp anyway. But Yellow Jacket decided that he wanted a drink of water. So he went to the creek and started to drink from it.

I said, "Your dog's in the creek just above you."

His reply to this, "Well he oughta be clean by now." [Laughs.]

We moved to another camp above Zenia. This was the location where the natives would come up to our camp at night to look down in the Eel River to see the train go by. There's only eight miles of railroad in the entire county, and it was quite an event to see the Northwestern Pacific railroad train on its way towards Eureka.

We enjoyed the summer on the Mad River district so much that we wanted to stay there during the winter. We had arrangements with sort of a semi-mechanical inventor who'd developed a light plant from water power. Had a little store, the post office, and was willing to feed us, so we thought it would be nice for us to stay there and do our office compilation without the distractions of a big city, such as Weaverville (population, 1,000). But our boss, the assistant supervisor of the Trinity, decided he had other things for us



to do as well as our range survey, and had us move into Weaverville, which was rather fortunate in that the civil service examination announcement was made that fall because of years of depression, they hadn't given the examination for two or three years. So it gave us an opportunity to prepare for that. And we went to Red Bluff, California, late that fall, and took the examination.

In 1931 at the end of the winter quarter, I had the urge to return to Plumas National Forest and start work again. Well, that was in March and far too early for making range surveys. So the district ranger at Quincy gave me a job for three months building trail and maintaining others on the north slope of the middle fork of the Feather River, south of Quincy.

In those days it was customary to work six days a week from eight to five with an hour for lunch. And then there was a sudden change where we had Saturday afternoon off. And we had so much time we wondered what to do. Of course, we'd go into Quincy to get supplies and take in the Saturday night dance. Then after we went on range surveys and were camped near Taylorville, they had a forest fire nearby, where I attained an unwanted reputation. It was a fast moving forest fire in yellow pine second growth. And we had the fire well controlled by about midnight. The next morning they assigned me as a crew boss in charge of a mop-up. This consists of taking men out and seeking out the last ember, in some cases even feeling with your hands to detect it. The excitement was all over. It was then just putting everything out inside the line. It was dirty drudgery. Well, there was one large white fir just inside the line; I saw a wisp of smoke coming out a knothole through the bark about thirty feet above the ground. And I watched it, and I saw another faint trace of smoke. So I ordered a falling crew over to

cut that big fir tree down. Of course, that was before the days of chain saws. About the time they got the undercut in, the supervisor came along. He asked, "Why are you cutting that big fir tree down?"

And my reply was, "There's fire inside of it."

"Oh," he says, "you've got smoke in your eyes. You're just imagining things. But since you've put the undercut in, go ahead and cut it down." When the tree fell, it exploded. The whole interior was smoldering from the lack of oxygen, and when it broke open on the ground, it was an inferno. So I was considered as a good mop-up man after that.

Forest fires are thrilling. There's excitement. But then after they've been controlled, the other work is drudgery, and sometimes you can stay on 'em for a week or two before the last spark is out.

Several weeks after that incident, we moved over to Lake Almanor, another camp, and one Sunday we climbed Mt. Lassen. I was in excellent condition in those days, hiking many miles every day, didn't smoke, lots of sleep at night, and I believe as far as I know I set a record for the time it took to reach the top of Mt. Lassen. I walked right straight up the mountain, and from the road near the Mud Pots, in fifty-five minutes. And I believe it's a record that'll stand because soon or about that time, the National Park Service built a trail to the top of Lassen using many switchbacks, and of course the hikers are required to follow the trail and not cut across.

At that time, the Lassen National Park was enlarged to include some of the Lassen National Forest on the north and east side. And I didn't like the idea—I was an ardent pro-national forest person by that time—but there was very little dissension or argument or discussion about it among the higher-ups in the Forest Service. This was sort of the beginning

of my opposition through the rest of my life in regard to the expansion or creation of national parks at the expense of national forests.

Referring back to 1930, I mentioned the bus ride from California to Iowa. I'd like to comment about crossing the southern desert in Arizona and New Mexico, my first experience in the Lower Sonoran desert life zone—or some called it the warm desert. The bus broke down as we were crossing Arizona. And we had two or three hours time before it was repaired. The other passengers were very disgruntled, but I was happy to get out and explore a new country and its vegetation. I carried [Willis Linn] Jepson's *Manual of the Flowering Plants of California* with me. It was my bible. I was a disciple of Jepson and have continued to refer to this for identification, especially in California, most of my life.

I remember three of the plants unique to me that I was able to identify. One was creosote bush, *Larrea tridentata*, also numerous species of cacti and an interesting grass, side oats grama, *Bouteloua curtipendula*.

In 1930, I prepared a belt transect on the 40th degree latitude from near Honey Lake Valley to north of Chico, California, using the field data that I'd collected during that summer. Made a plant list for the entire distance, and used that as a thesis for my senior year in college and also to meet the requirement for taking the federal civil service examination. I plotted the vegetative types on a profile, and one of the most pronounced things that I recorded or remember is the absence of cheat grass, *Bromus tectorum*, in the zone above the desert shrub or in the yellow pine transition zone. I only found cheat grass in one place in that life zone and that was under a tree near Murdock Crossing where I believe some deer hunters had brought in some contaminated hay. There just wasn't cheat grass anywhere else at that elevation.

Having gone back to this same locality forty years later, in the spring of 1970, I was surprised to find that the cheat grass had spread over most all of this area, which was partly a result of perhaps three different things: overgrazing, logging, and fire. There was no logging in those days. But since that time they've even built railroads into the Last Chance country, and taken the logs out to Sierra Valley.

I found the Kellogg oak, *Quercus kelloggii*, on the east slope of the Sierra in the vicinity of Honey Lake Valley. And I'd like to briefly discuss some scientific nomenclature at this point. Taxonomists are either "lumpers" or "splitters." And as an amateur, I'm certainly a lumper. However I have adopted, without exception, the international code (I believe) that does never capitalize the species name, only the first letter of the genus is capitalized. As I mentioned previously, Jepson was my bible. And he followed the code in which never is the species name capitalized, even if it derived from a personal name. Tidestrom's *Flora of Utah and Nevada* followed the same system. Both of these manuals are now out of print. And I'd like to adhere to that. Also, scientific names change from time to time. They're not supposed to, in my opinion, but due to the whims of some later taxonomists, or research finding that genera or, more commonly, species names were not acceptable, they give it another name. I'm not about to learn more than one combination.

While we're talking about the Kellogg oak, I had a great admiration for Dr. Kellogg, for whom the species was named, as he illustrated the oaks of the West in drawings. They were published in a volume titled *West American Oaks*, in 1889. I acquired a copy of this through a means that I'll mention later, and would like to present this to the Archives. His sketches, in pencil, of the leaves, the flower,

the fruit of oaks almost life size, are some of the finest that I've ever seen.

Going back that same year, [1930] at Quincy, it rained us out from where we were camped at Mohawk in September. So we moved to Quincy to do our office work, arriving late Saturday night. And the next day, Sunday, was one of my longest days. It rained all day. I didn't know a person in the town. There was no opportunity to go out for some exercise or to see some more country. I didn't know if I was going to enjoy the sleepy little town or not.

At that time, in the Depression, Quincy had very little activity. The natives, I learned, were very friendly, and it was a nice little town to live in. The sawmill had closed down because of lack of market for the timber. I think in '30 the Plumas Forest only sold a million and a half board feet of timber, a hundred times less than now for normal sales. And only the prime western yellow pine had any market. No one wanted white fir. As time progressed, the Forest Service required the operators to buy the white fir at fifty cents a thousand. But the operators tried to avoid even falling the trees. Well, that was contrary to good silvicultural practices, because they wanted a pine second growth, instead of fir. So then the Forest Service required the operators to fall the fir trees. Well, then the operators tried to avoid logging the fir. They wanted to leave the fallen trees on the ground. The Forest Service didn't accept this. So then they required the operators to deck them at landing. And the operators, to their disgust, did it, and still didn't want to take them out of the woods.

Quincy at that time, was what is now the town surrounding the court house, and East Quincy never existed. It was out in the boondocks. It was so isolated that that's the location that the Forest Service used for a

powder magazine to store their dynamite. Today it is a built-up business district.

We were rather isolated, too, during the winter. There was no highway from Quincy to the Sacramento Valley. The poor mountain road was snowed in from about the first of November 'til spring. If anyone went to the California valleys or the Bay area, they had to take the Western Pacific train. There was also a train, passenger train, that came to Reno. There only was a very poor gravel road towards Reno through the Sierra Valley and that was usually in very rough washboard condition.

At that time Sierra Valley was to me, a beautiful, large mountain valley. Seemed to be of lush meadow vegetation. And comparing it forty years later, it seems that in many places, through erosion, the water table has lowered. The meadow lands have diminished, and the sagebrush has encroached many places within the valley, unless there was abundance of irrigation water.

## **FIREFIGHTING**

During the fall at Quincy, the Forest Service had the annual ranger school three miles north of town. This was a tradition that every young forester aspired to attend. I was only a field assistant on a temporary basis, but I did have the assignment to train the elite in making range surveys, identification of plants, and typing, and running lines. I remember too, during this time, there was a fire that broke out north of the camp near Keddie. And ten of us went to the fire. As we left the truck, each one of the young assistant rangers grabbed an axe, and started up the hill and I thought well, there ought to be at least one shovel in the crew. Ordinarily about one man with the shovel was needed with the man with the axe. Anyway, I had quite a strenuous

afternoon with the shovel trying to keep up building fireline with ten axemen ahead of me.

While still on the Plumas National Forest in 1931, it was a very severe year for forest fires. As I recall we spent more time fighting fires than surveying that year. The first big fire that I was on was the one that started on Indian Creek below Crescent Mills. And by that time I had progressed from a mop-up man to a sector boss. Fire suppression is somewhat like military operations. A line is divided up into sectors and divisions, and then the whole fire is in the charge of a boss who was the district ranger, as it was organized in those days. That was changed later, and I'll go into that at a later time. Anyway, they assigned me a sector up on the rough ridge, west of Indian Creek. And I was immediately under a division boss. About noon the fire slopped over our line, and we were in a tough predicament. The division boss got sick and went down the hill, so it left me not only with the sector, but with a whole division to supervise. We caught up the slop-over about sundown. I guess it helped my reputation as a member of the fire overhead. The next one or two days, they assigned me a division back of Crescent Mills. We backfired from the line early that morning, and as the backfire rushed up the slopes to meet the main fire, the release of energy actually shook the ground. I believe that was the only time I ever experienced that.

Along about the middle of the morning, I heard bells ringing at Crescent Mills, and I thought to myself, "The fire has gone over my line some place." I ran back and forth about a mile to see where the slop-over occurred, and I couldn't find any even weak place in the line. And then someone explained to me it was Sunday and the church bells were ringing.

I had no idea of what day of the week it was. I hadn't had a bath for six days. And poison oak was beginning to take its toll, not

only skin rash, but it actually got into my system.

This is the first fire that I had ever seen an airplane used. It was one owned by Red River Lumber Company from Westwood, California. And they provided it to scout the fire. of course in those days it was before bulldozers were invented or chain saws. All the work on the fireline was done by hand, either axe, shovel, rakes, or saws. There's been tremendous progress in equipment on the fires that I'll discuss at a later time. This fire burned almost to Greenville before we had it controlled.

Forty years later, I looked at this burned area and was pleased to see how nature had healed the scar in good reproduction of pine and Douglas fir.

About the time this fire was controlled, the big Mt. Hough fire took off near Quincy—northeast of Quincy about three miles. This fire rushed up the mountain at an unbelievable rate through beautiful Western yellow pine stands. By the time I moved from the Indian Creek fire to Mt. Hough, they had the line around a good part of it. But there was supposed to be a gap of about one mile without fireline. Having worked in the area and surveyed earlier in the year, they assigned me the job as a scout to try to tie the two lines that were working toward each other together, in the shortest possible distance. As I went up along the fire perimeter, to my dismay, I found out that there was a gap of about four miles of fire that had no line. As I reached Today there would have been spirited bidding for such timber perhaps at a hundred dollars a thousand. It was fairly easy logging. Road locations were not too difficult, and the timber company took the logs to the Western Pacific Railroad, loaded them in coal cars (or in those days we called them gondolas), and shipped them to the mill at Westwood.

I mentioned too a violation of a cardinal rule—staying on the outside of the fireline. But I did learn some lessons that summer. One was in regard to the safety of the men in your crews on the fire line. That is a primary responsibility of any overhead on the fire is to be sure their men do not become trapped. If the boss always seeks an escape from the fire downhill, there's a good chance that they will not be trapped. And then I learned another lesson in selection of men for my crew. Large numbers, maybe two or three hundred pickup firefighters, would be assembled at the camp, and they'd allow each of us as sector bosses to pick out thirty, forty, maybe fifty men from the group as our crew for the day. And I found that to size up the men, don't look at them from head to toe, just look at their boots. If they had good logger boots on, there's a good indication that they were loggers. Of course loggers are among the best to work in the woods, or to fight fire. I've tried to convey these two points to my classes later at the University of Nevada in forest fire control.

Going ahead though to 1960, during the Donner fire west of Reno, we tried a new approach for the organization of crews for the fire line. Huge numbers of pickup labor were assembled at the Washoe County Fairgrounds here in Reno, and [Sessions S.] "Buck" Wheeler was very concerned about the fire and wanted to do anything he could, So I asked Buck if he would go to the fairgrounds and organize crews of pickup laborers to dispatch to the fire so that when we reached the fireline there would be some sort of organization. And Buck did an excellent job in carrying out this request and I think it is a new innovation for even organizing pickup laborers for fire suppression.

Another big fire that they didn't send me on because of my poison oak affliction was the one that started the north side of Sierra

Valley near Reconnaissance Peak, and burned to the north, clear over the main divide into Frenchman Creek. In those days there was very little cheat grass, *Bromus tectorum*, as I have previously mentioned, in the pine belt. But following the fire, we've experienced a very dense growth of cheat grass coming in on the burned areas. I observed the same situation on Peavine Mountain northwest of Reno. In 1930, it was mostly sagebrush and some bunch grass. Although there were timber types on Peavine that were logged and burned in the early days of the Verdi mill operation.

I'll mention later another fire that burned in the same area as the Frenchman Creek fire in 1931.

Well between fires in '31, we were camped at Lake Almanor on range surveys—at least during the weekend we were camped. During the week, Kelly Traugh and I had the honor of being in a spike camp working out all by ourselves over near Thompson Peak, doing extensive range survey. This consisted of mapping types on a contour map instead of the routine system for the less experienced—running section grids. And this camp at Thompson Creek—we're just about ready to go to sleep one night, and felt quite a violent earthquake. I suppose it was a local disturbance. At least we could hear it. It was rather eerie out there in the backwoods by ourselves, and it was my first experience. But we were consoled in that we didn't have to worry about buildings falling in on us. The worst that could happen would be for our tent to collapse.

Well anyway, getting back to Lake Almanor, the district ranger came to camp one Saturday noon and asked for volunteers to dig garbage pits for a new campground. Well, Kelly needed the money, and I needed some exercise, so we made an arrangement



for two of us, each to dig a garbage pit at the new campground, six feet square and four feet deep. When I got down about two, three feet in depth, I hit a rock. And I was sort of cursing my luck, because I thought from there on digging would be more difficult. I threw the rock out and kept on digging, and when I had reached the specified depth, I crawled out of the hole and got to thinking, "That's strange. There was only one rock encountered." And I got to looking at the rock, and discovered that it was hollow. I dug the soil out from inside and cleaned off the exterior, and found out that it was an Indian artifact, about an inch and a half thick with a design on the outside of the stone, which weighed about fifteen pounds. Since that time, I have asked anthropologists about it, and apparently it is rather a strange or unknown utensil. As it was three feet deep added to the mystery. Well anyway, I saved the item as a collection and the next time I went into the supervisor's office, the head of the clerical department bawled me out for trying to claim money for digging garbage pit-holes on Saturday afternoon. It's true it was our afternoon off, but he explained that we were working on a monthly salary which was seventy-one dollars a month that particular year. The year before it was seventy dollars a month. The following year during Hoover's austerity program, we took a reduction to sixty-eight dollars and fifty cents [laughs] a month. But anyway, he was very critical and said that we couldn't be paid for our labors. Well I asked him, "Do you want me to go back and fill up the hole?"

He says, "Well, you can do as you like."

Of course, I had no interest in covering up the work that I had accomplished, and I feel far more rewarded having found this Indian so-called vase, than all the money they could have paid me for overtime.

Many years later, I have taken my classes in the University of Nevada Renewable Resource Center back to this campground. Not necessarily to talk about artifacts, but to show them mistakes that we'd made in developing campgrounds in the early '30s before the CCC program. In those days campgrounds were developed without any plan. For this particular one, a very productive timber producing area was selected, too far from Lake Almanor for convenient use of the lake. It was good fishing, even in those days.

In the development of campgrounds in those days, the main motive was to prevent camp fires from escaping and take care of the garbage. Some of 'em had no water development. Another campground developed the following year that I participated in, up near Buck's Lake west of Quincy. We pruned all the trees up to about ten feet in height to keep—to prevent a campfire from escaping and causing a crown fire. Nowadays they try to keep screening in campgrounds to give each unit some privacy. Our campground at that time, looked more like a pruned-up orchard.

I'd like to back up to 1930 again, at Quincy. Our chief of party, Lloyd Swift, sent Del Fausett, who was an associate, and me to make some one-meter-square transects in Butterfly Valley, as a beginning of a record to compare conditions as they changed in the future. To make transect, it was necessary to very precisely map the area occupied by each plant and list by species. It was tedious work, but it was too good to get out of the office into the crisp fall weather. Nearby the transect, I was intrigued by a strange plant growing in a bog, and we identified it as pitcher plant, *Darlingtonia californica*—it's an insectivorous species, that has a very limited distribution in boggy areas, both north Sierra and to some extent in the north Coast Range.

Forty years later, I went back to the same location. From heavy grazing, was unable to identify the site of the transects, and to my disappointment, could find no pitcher plants. Apparently, people had dug them out, taken them home for ornamentals—or even possibly nurseries had collected them, because they have been cultivated as ornamentals. However, I was happy to find about two miles distant another boggy area where the pitcher plant was flourishing. The Forest Service had designated it as a natural area and were building a chain link fence around the specimens to protect them.

Another event in 1930, I was making range survey in Long Valley above Cromberg, and having been in the woods all morning without any water, was quite thirsty. Came into a sheep camp at noon. The sheep were shaded up along the creek, so was reluctant to drink the creek water. So I asked the herder, who was glad to see me. He was a Basque and was anxious to learn our language. Those poor herders have very little opportunity when they're out with a band of sheep. About the only words that he had mastered was our profanity, and he used that in a sort of an unusual way. Anyway, I asked the herder for a drink. And he went to the spring and brought back a quart brown bottle and handed it to me. And I thought to myself, "Well, that's kind of strange, but perhaps he doesn't have a glass or a cup." And I, expecting to have a long deep drink of mountain spring water, took a big long swig—and it was bootleg whiskey! [Laughs.] The first taste of whiskey I'd ever had—it almost blew off the top of my head. I strangled and gulped, and it burned all the way down. As it turned out this was Ed Settelmeyer's sheep allotment. Ed and I became close friends and hunting companions here in Reno many years later. In fact, several days later, although I had never

met Ed, arrangements were made for me to ride the sheep allotment with Ed's foreman. We were anxious, both of us, to see what we could do for range improvement.

The horse I had was a fine gentle sorrel, and many years later I mentioned to Ed what a good horse his foreman provided me. And Ed opened up his wallet and pulled out a picture of it. He'd kept a picture of this fine animal almost like you would a member of the family.

I might qualify myself as a horseman. I never was a good cowboy or buckaroo. I didn't especially like to ride. To me it was a means of transportation that was better than, in some cases, walking—although there's been other times when I've elected to walk rather than to ride some of the poor animals that were available.

That same year, 1930, near Thompson Peak, we had our first experience in regard to aerial photography. We helped flag out control points on the ground that show in the photos, and in some cases had to go back and replace them several times, because cattle on the range would disturb them.

The next summer, '31, we made use of the aerial photographs put together in a form of a mosaic. We didn't have stereo pairs. But they were useful to find stringer meadows that we might miss as we made our range surveys. To my knowledge, this was the first use of aerial photographs, at least for administrative purposes, in the California region. We had a little training in their application while in college, and research was working with aerial photographs. Some of the supervisors had a few prints, and a stereoscope, but they were looked at more as a curiosity than for actual information that they could yield. We'll go into aerial photography and their use numerous times as we continue on.

In 1931, during the summer that I was either fighting fires or making range surveys,

I received a notice from Iowa State registrar that I had failed in a botany course. This was quite a shock to me because botany was always so easy, and I was so interested in it. But it referred to special problems in Economic Botany that another student and I took by ourselves. The professor met with us the first day, and we never saw her again for the rest of the term. We weren't especially concerned, because we were learning what we wanted, and that was agrostology, consisting of identification of Western range grass and their uses, for grazing. But the professor made a note that she'd allow us to make up the course, if we would write to her a sort of a thesis as to what we got out of the course. She certainly didn't know. We knew what we'd done and what we'd learned, so submitted that. And later was given a grade of ninety percent for the course, but still to this day, my transcript shows not passing a course in botany.

### FEATHER RIVER DISTRICT

In 1931, on the range survey project of the Plumas, much of my work between fires was done on the north fork of the Feather River. There's a great contrast in forage types comparing the east side of the Plumas with that of what is called the west side, or in the steeper canyons of the three forks of the Feather River. On the east side bitterbrush, *Purshia tridentata*, was the principle browse plants for both livestock and deer, while on the west side sweet birch was prominent, *Ceanothus integerrimus*. An excellent summer browse for both sheep, cattle, and deer. However, it's deciduous so is of less significance in the winter time.

Having worked the summer mapping forage types in the steep north fork of the Feather River, I went back to college that fall, and discovered that because I was so erratic

in attendance that I was having a hard time scheduling various courses. There was no way to schedule topographic mapping that the Civil Engineering Department required for foresters. So I went to the professor to see if I could get a waiver. As a coincidence, he was a civil engineer on the surveying of the Western Pacific Railroad in 1902 down the Feather River Canyon. So we had a pleasant reminiscence, and I told him what I'd done, and he very willingly waived the course [laughs].

When I was surveying the north fork of the Feather River along the Western Pacific Railroad—I walked many miles of the track to get to or from the area I was surveying. That was the easiest route. I think I walked through every tunnel on the railroad from Oroville to above Quincy. Some that had curves in them are rather dangerous, but it was the course of least resistance.

I was taught in college in Botany, that it's common to find unusual plants along railroad right-of-way, half way between Quincy and Oroville, I found an unusual plant, to me, and took it back to camp and identified it as blazing star, or *Mentzelia laevicaulis*. It has a wide distribution in the west, but I'd never seen it before, and my collection was the first one for the Forest Service in the region.

While discussing the north fork of the Feather, I might mention too that I saw the first mountain lion in the wild, on a cliff above Virgillia [California]. There was a mature animal and a half-grown, and I tried to chase 'em over the cliff to see more of them. I had no fear. But I never got to see them again.

On the Plumas Forest in 1932, I was surveying on the north fork of the Feather River, and discovered a fire below Big Bar Lookout. I couldn't see the lookout, so I knew the lookout couldn't see the fire as it wasn't putting up much smoke. So I rushed up the



mountain to report to the lookout, as he had the nearest communication. It happened that the lookout was in a house on a top of a hundred foot tower. I had climbed the flimsy ladder several times previously with no concern for height. But having rushed up the mountainside and out of breath and then started to climb the ladder, when I was about seventy-five feet above the ground, I was out of breath and become weak. It seemed like about all I could do was to hang on. Finally forced my way on up to the cabin, and it took me, after reporting the fire, about ten minutes to get courage up enough to descend. And I mention this because it's an incident in which a person can develop acrophobia with no symptoms of it previously. And for just a minute or two experience, it's something that can carry on through the rest of my life.

On the north fork of the Feather River, I had an experience that was my first time ever being lost in the woods. I believe that anyone that says they've never been lost in the woods, perhaps hasn't been in the woods too much. By the map it showed one drainage, and I was in thick underbrush and even overbrush, most of it California hazel, *Corylus rostrata*, and there were five drainages instead of the one that the map showed. Not being able to see and finding four more streams than were supposed to be there, I frankly didn't know where I was. I probably could have followed the usual principle of going downhill, and the camp was up on top of the hill. So on this occasion I run a compass line straight south until I could reach some country I recognized.

In 1932 then, the range survey work moved over to the middle fork of the Feather River. That was a wild river then, and it's still a wild river, by act of Congress in 1968. That summer I either mapped one or the other side of the river almost all the way from Nelson

Point Bridge down the river to where present Lake Oroville backs up during the '70s.

Bald Rock Canyon was a spectacular feature of the river where granite domes dropped into the river, I believe about a thousand feet on one side and seventeen hundred feet on the other. It was almost a forbidden territory. At that time no one had ever gone through Bald Rock Canyon alive. There had been lives lost. Later, I understand, with the rubber rafts and scuba divers, there have been those who have gone through it. I got down within two hundred yards of the bottom of the canyon, which was close enough for me.

Feather Falls is another spectacular topographical feature tributary to the middle fork. I believe it's the third highest waterfall in the continental states. And the cascades on the south fork of the middle fork was quite a spectacular feature—seven cascades dropping down on the stream to join the middle fork. I'd stop at one of these pools at the bottom of the cascade for lunch and some of the best trout fishing; I could catch trout with a bent pin and a scrap from my lunch. Barbless hooks, in those days, had a place.

Also in regard to the Feather Falls, I killed the first rattlesnake in my experience. I'm not so sure, as time goes on, whether we should destroy every rattlesnake that we come upon or not. I've killed many and I'll mention some of 'em. But they have a place in our ecological system, too.

In August [1932], there was a fire on the middle fork at a place called Marble Cone. This location got its name due to a limestone reef across the canyon, and on the north side there was a cone of limestone almost as hard as marble. Well, the fire occurred in this area, and having worked in the vicinity, the ranger asked me if I'd go down along the river and see if I could get some miners to help fight the

fire. I knew where there were several mining camps, but I hadn't met any of the men. So when I arrived at the first miner's cabin, the fella invited me in and introduced himself as "Lefty" and it's obvious why. His right arm was amputated at the elbow. And he wasn't too anxious to help on the fire, and I certainly wasn't gonna conscript a disabled man.

I asked him if there were other miners nearby, and he said, "Yes, the fellow we call 'Army' is down the river about a mile."

So I went down the trail to Army's camp. That sounded like a good source of men. And as a coincidence, when I met Army, his left arm was amputated at the elbow. But Army wasn't as affluent as Lefty. He didn't have a cabin—his camp was out in the open. He was willing to help us on the fire. And I thought a half an Army was better than no Army at all [laughs]. And he knew the country very well. So I put him on the payroll, and as a coincidence, the next day when we built the fire line down into the river (burning out from the line as there was an up-canyon draft), we ran the line right beside Army's bed. You could sit on the bed and have your feet on the fire line. And then tied the line into the river—the fire was controlled.

Another tributary to the middle fork was Lost Creek, and when I was on this watershed typing the vegetation, I stumbled on to an old Chinese camp. And I noticed in the camp a crockery jar that meant nothing especially to me, but when I got to camp that night I told the chief of party, Lloyd Swift (he had been my boss for three years) about the camp and the jar, and he gave me instructions in no uncertain terms to bring that jar out the next day. It was rather large, perhaps it'd hold five gallons. My understanding is that the Chinese used this fine, thin crockery to ship rice in. So I brought it out, though not especially enthused about artifacts or relics. He was

very pleased, and the next time I saw the jar was in Washington, D.C. at his home in 1942, where it was located in the hall as a container for umbrellas.

There are other relics that I have passed up, not being especially interested in 'em. I saw numerous ox shoes which to me at that time were crudely made, worn-out horseshoes. And I didn't know what they were, and probably cared less. There was an old barn near Challenge, California and in the hayloft I found a keg of new ox shoes. Forty years later I thought I'd go back, and knowing what they were now (and they're collectors items), see if I could find that keg of ox shoes. Without taking too much time, I couldn't even find the barn. In fact, I didn't even recognize the town of Challenge where we'd camped for a month. It had changed so much during that time. So maybe there's still a keg of new ox shoes out there in a barn somewhere.

---

## TRINITY FOREST

Just before leaving the Plumas National Forest in May, 1932, the forest supervisor offered me a position as a CCC camp superintendent that would pay \$2,600 a year. The price was attractive, but I decided to decline in order to pursue more closely what I thought my profession was in forestry and range management. So went to the Trinity Forest at the salary of seventy dollars a month, a decision I have never regretted.

I believe I mentioned the start of the experience on the Trinity Forest. I'll try to reminisce for the period of 1933, '34, and part of '35, while at least part time I was assigned to the Trinity.

About the time we arrived on the Trinity, the CCC program was being inaugurated, and one of my first experiences with it was the selection of camps for the two hundred workers. One of them, where we wanted a camp, was on the divide between the north fork of the Eel River and the main Eel. It was sort of a neglected, isolated, abandoned portion of the Trinity Forest. There were many roads to build or improve, trail work

to be done, lookouts to build, guard stations needed. And being interested in grazing, there were areas of tall larkspur that is poisonous to cattle, that should be eradicated. So we joined up with a major in the Army to go and select a campsite. It was a joint operation in those days between the Army and the U. S. Forest Service in the selection, development, and operation of those camps. It was a gloomy, rainy day, and we drove over a very narrow mountain road, single track where you could look off to the right at almost a vertical drop-off of a thousand feet. And I noticed the major sit very erect in the pickup, looking straight ahead. Well, I thought maybe that was normal military posture, but on the way back, I made the comment that it wasn't a very good road.

He says, "That's right. And I'm never gonna travel it again, and there isn't gonna be a camp of this locality." [Laughs.]

Well, on the Plumas Forest I mentioned some of the principle grazing types on the east side were browse and meadows, and the west side, steeper country, was the sweet birch. When we started surveying on the Trinity

Forest—the Mad River district—we were in an entirely different type of vegetation. The main grazing capacity occurred on locally termed “glades” which were usually quite steep grasslands, surrounded by fairly dense oak and Douglas fir timber. The plant composition that made the forage was mostly annual such as soft chess, *Bromus hordeaceus*, burr clover, and filaree, none of which were really natives to the area, but they had invaded open areas that was not suitable for the production of timber. There was no bitterbrush, except one little ridge east of Indian Valley or west of Hayfork, California.. A little isolated ridge had some bitterbrush on it. I’ve thought of it many times since as being a relic of a species a long ways from the other types of bitterbrush on the east slope when into the Great Basin.

There was an interesting plant that we found and identified, not as a forage plant, but it’s unusual and attractive. It’s called firecracker plant, *Brodiaea ida-maia*. It does look like a little Chinese firecracker. The slender, red corolla with the exerted pistil appearing like a fuse, is a good replica of a firecracker. It was named *ida-maia* because the botanist that discovered this liliaceous plant stayed at a home in the locality, and their little daughter’s name was Ida May. So he named, gave it the species name in her honor. I’m not sure that this is readily available in the literature. I made the first Forest Service collection of this plant for the Washington, regional, and Forest herbarium.

Well, having worked all summer on the tributary of the Mad River, the Eel, and VanDuzen, we went into Weaverville in September to compile our data. In a little town about 600 population in the bottom of the Depression, some of the town leaders hoped to have some type of educational entertainment for the people. And they decided to have a local forum. To start it off,

they asked me to give an illustrated lecture on the flora of Trinity County. Having been there less than a year, I was perfectly willing to do it as an authority [laughs]. I had herbarium specimens to display, and talked about the various flowering plants, even to the trees. And I told this little story about the firecracker plant. This was really my first public speech. I took public speaking in college, and it was one of the hardest courses I ever attempted. But this came quite easy and I found if a person is really interested and wrapped up in the subject, the chance of stage fright is minimal. Anyway, apparently it went over so good that they asked me then for the next forum, to give them a lecture on bacteriology. I don’t know just how they found out that I was interested in it, but I disqualified myself and suggested that they get the one local physician to talk about bacteriology. He didn’t accept. And as far as I know that was the end of the forum.

The following winter, 1934, we had completed our compilation work on the field notes, so they detailed Mr. [Floyd] Iverson and I to make a range survey of the Monterey Division of the Los Padres National Forest, or at that time called Santa Barbara National Forest. It was the steep coastal range between Monterey and San Simeon, draining on the east into the Salinas River, and on the west directly into the Pacific Ocean. Some of it very precipitous to the ocean. When we made the survey Highway One was far from completed. This spectacular highway goes right along the immediate coast five hundred to a thousand feet above the ocean, and without the highway that area was very remote, inaccessible back country.

They designated me as chief of party and gave me a crew of six, either junior range examiners or those who were about to become appointed in that capacity, which I hoped that I’d be classified as too.

We arrived at the camp on a Sunday night in an entirely new botanical area. And I had to have a scientific plant list for the crew to start working with, I thought, by early Monday morning. So we burned the midnight oil and identified most of the common forage plants and wrote up the list so they could go to work in the morning. In range surveys, I don't believe I've mentioned before, after a person is trained each individual works alone. It's a one man surveying party—mapping and location, and in that kind of country—based on contour maps. We didn't have aerial photos at that time. But USGS did provide us both in Santa Barbara and on the Trinity, quite good contour maps on the scale of two inches to the mile and 100-foot contour interval.

So after we got the crew lined out, I was sort of scouting around getting acquainted with the country so I'd know what each man was covering, and I run across some rooting through the brush that I assumed were trespass pigs. And I wanted to track them down to see if they could be identified, at least to what breed, and maybe see if they were "slick ears." It was customary for some of the hillbilly ranchers to mark their pigs by certain clips of the ears. I followed this rooting for a quarter of a mile or so, and fortunately never found them because later I found out that they weren't domestic pigs in trespass. They were wild boar which had been imported from the Ural Mountains to the mountain ranges south of Carmel as a game animal. And if I had encountered a wild boar (I guess you call the female a wild boar), with some pigs, I might have had a difficult retreat as there were no trees to climb. So I learned too, that domestic pigs or hogs root in a sort of a patchy area, while the wild boar just roots in a kind of a long streak as he travels through the country. I also found out that the end of the bristle on a wild boar was three-forked, and the bristle on

a domestic hog ends in only one column. But I'm glad I never got close enough to identify the bristles.

We had an enjoyable spring (March, April, part of May) on the Monterey division—almost completed our work. Then with the grazing season beginning farther north, I returned to the Trinity National Forest to make more surveys of the range lands, while the rest of the crew went to Modoc National Forest to start a big, intensive range survey in the Warner Mountains.

They gave me a field assistant. (By that time I was appointed a junior range examiner. And under the NIRA program, my pay jumped to \$2,700 a year—so much money I had no idea what to do with it. I still didn't have a personal car, because I really didn't need one. The only traveling I did was official travel in a government pickup.) Anyway my assistant wasn't too good a botanist, and he'd go out and make lists of plants and would come home with most of 'em at night because he didn't know what they were [laughs]. And on the type-sheet would list 'em X-1, X-2, and X-3, and so on. But we had a productive summer, finished our field work and went back to Weaverville to compile the data. And at that time they built a new forest supervisor's office, as a part of a CCC project. And they bought two car loads of ornamental trees and shrubs which were shipped into Redding on the railroad. And they then assigned me the job of running a CCC crew to landscape the grounds according to a plan drawn up by an architect in San Francisco. I mention this because one of the plants was a Sierra redwood, *Sequoia*, or nowadays they call it *Sequoiadendron gigantea*, that was about eighteen inches high in a gallon can. I planted it according to plan, and today that tree is forty feet high and used as the village living-decorated-Christmas tree.



The winter of '34 and '35, while doing the range reconnaissance office compilation, they gave me a draftsman (who really was a geologist sort of out of work) who made excellent maps from our notes. And at that time I was trying to learn geology from him, and I was trying to teach him botany. He realized that I was especially interested in the oaks, or genus *Quercus*, and two years later, he happened to find in a secondhand, rare bookstore in San Francisco, the volume *West American Oaks* that I mentioned previously, and presented it to me, so now is presented to the Archives.

### PRIMITIVE AIR POLLUTION

Another project that we participated in at that time was what they called a visibility survey; where we and others would go to the highest peaks and map what could be seen from those locations as to their suitability for Forest Service lookouts. The Trinity had a very meager detection system until the CCC came into being.

One of the criteria that we followed in mapping visibility was not to try to see as a potential lookout site, more than fifteen miles. The reason it was set rather arbitrarily at fifteen miles was that it was about as far as a lookout vision would go because of what we called at that time, haze. I mention this because we have later become so concerned with air pollution. But that country, remote from any industry and very few internal combustion engines there, was still a haze that limited visibility. We just considered it as a natural phenomena. I remember reading of the time when Fremont and Kit Carson were on Carson Pass, Valentine's Day, 1844 when Kit Carson commented that the air was so clear that they could see "the little mountain." He'd been in the valley before, and called the Sutter Buttes

"The Little Mountain". So even back that far there was a haze, and we know it wasn't caused by our normal, man-caused pollution.

It was rather a fascinating project on visibility study. Where it wasn't to find the peak alone that covered an area, but find another peak within fifteen miles that also covered the area so that cross-shots from two lookouts, so where the lines crossed was the location of the fire. I taught later, at the University of Nevada, in forest fire control, the same technique to my students in Renewable Resources. We went to the Stateline lookout above Cal Neva on the north end of the lake, and they made visibility maps similar to those that we made many years before on the Trinity. And I recall at that time, usually you couldn't see the south end of the lake, twenty-two miles away, clear enough to really detect a fire.

Speaking of haze that we thought was somewhat natural before the air was polluted by man, years later I've discussed this type of haze with Dr. Frits Went of the Desert Research Institute, in which he explained that the vegetation gives off certain gaseous substances that creates a haze. And that then explains a forester's layman comment in regard to distant stands of timber that appear bluish in color, and indicates to the forester that it is a large stand of mature, dense timber that emits this gaseous substance that contributes to the haze. I wish to state that I do not condone air pollution or contamination when it's caused by man, either by internal combustion engines or industry. However, when visibility is limited, we should analyze it more closely to determine which is a natural phenomena and which is man caused.

\* \* \* \* \*

While Floyd Iverson and I were working on the Trinity Forest, it was prior to the

passage of the Taylor Grazing Act. Although there was some public domain in the vicinity of the Trinity Forest, it was somewhat of a no-man's or neglected land. During this same time too, the State of California Division of Forestry was woefully weak in protecting the state and private lands outside the national forest boundary. They were underfinanced, undermanned, very few professionals. And I recall on some fires, the Forest Service would sort of line up on the forest boundary, and when the fire burned across the state protected lands to endanger the forest, then the Forest Service would go to work and control it. That has certainly changed in the last thirty years, and in some places now, the State of California Division of Forestry is far better equipped and manned and financed than the U. S. Forest Service. I've had several experiences where it was sort of the reverse. The state picked up the fire after it left the national forest.

They [California Division of Forestry] received very little benefit, of course, from the CCC program, except some of the guard stations and lookouts that the Forest Service built did give some detection and initial suppression on state land.

Then going to the Trinity again, talking about different forage plants, the west side of the Trinity has a predominating Garry oak, or *Quercus garryana*, that is fairly good forage for the portion that's within reach of sheep or cattle. Floyd Iverson and I found on top of one ridge where much of this oak had been cut, but never had been removed. It was just slashed and left to lie on the ground, and we wondered why. We looked into some of the history and the practices of both sheep and cattle ranchers. They had deliberately cut these oak trees down to provide forage for their livestock. That might seem like rather a futile thing to do. It certainly isn't conservation. But

there is another phenomena in this area that very little has ever been written about. And that is a honeydew that forms on the leaves of the oak, I believe it's caused by an aphid, and leaves a sugar coating on the leaf, which not only makes the oak leaves very palatable, but nutritious.

And then that fall, 1934, we went to Santa Barbara for about three weeks to do the office compilation for the Monterey division survey. Being strangers in the town, there wasn't much to do during the time off except read. Santa Barbara had an excellent library. [I] discovered a book *Western Wildflowers, Their Stories and Legend* by Saunders. So then I went to an excellent book store and purchased a copy, and to my surprise the author had dedicated the book to Mr. Barber, who lived in Santa Barbara. So I spent a long, enjoyable chat with him, and since the book was dedicated to him, in a way he dedicated my copy to me with his autograph. This volume has been donated by me to the University Library as they do not have a copy.

On the Monterey division, we encountered for the first time, redwoods along the coast. Most of 'em were in the newly formed Pfeiffer State Park, although there were a few on the drainages on national forest land.

While on the Trinity, I was always looking for redwood on the forest, but never found any. Apparently, the redwood belt never extended to the National Forest boundary. Several times, from a distance, I thought I could see a redwood, but upon examination found it was a Western yew.

As a companion to the CCC program in '33 and '34 the WPA (or Works Projects Administration) was formed as a federal government agency. The CCC boys mostly came from cities where the youth were unemployed. But something needed to be done for the residents, especially those living

in the poverty stricken areas, which included the back country at that time. So the Trinity Forest was allocated some WPA funds.

It seemed in '34 there was always a crisis in the office regarding paper work for the CCC and the WPA. The offices were not yet staffed to take care of these emergency programs. And one evening, late in the fall, a rush job developed in which they asked me to drive sixty miles down Trinity River canyon and get the signature of every WPA employee on a time slip by midnight. By the time I reached Burnt Ranch, sort of the work center, it was about dark and raining, and I didn't know the country too well. I'd'a never have found them without some help. So I went to the cabin of a forest guard, who was an Indian, to be my guide. Visiting for a minute at the cabin, it was obvious he was living with a white woman, and apparently the two blonde girls were hers by a previous marriage. I found out that they were living common-law, but it appeared to be a happy family. Anyway he went with me and took me to the cabins of the WPA employees—some down on the river, others up on benches high up the mountain—and we completed our task by about ten o'clock at night. Went back to his cabin and to have dinner. The woman and the two girls had the food ready, but they waited until we returned, which I thought was an indication of dedication.

The next spring the forest supervisor refused to hire this Indian guard for the fire season, because of his matrimonial status. I pleaded with the boss to overlook that because he was admittedly a good man, a good fire guard, and certainly knew the country. And the more I argued, the less weight it was holding, and finally the boss told me he didn't want to hear anything more about it. Then I learned a lesson in appraisal of personnel, and the chance that one indiscretion might

lead to another. Soon after that, my friend the Indian guard was convicted of raping one of the common-law stepdaughters.

The Coast Range, in which the entire Trinity National Forest is located, had many more rattlesnakes than the north portion of the Sierra embraced by the Plumas National Forest. I remember one week, the first thing Monday morning I killed a fairly large rattlesnake. And it seemed each day I killed a bigger one, 'til Friday evening I killed one the length of my survey staff which was four and a half feet long.

There was one rattler in a crevice between two rocks along the trail that I couldn't get to. I could look down and I could see him—he could probably see me too. He'd buzz a little. But it was a little disconcerting to walk that trail each day and know that there's a rattlesnake there that was not vulnerable to attack. I made it a habit to collect the rattle after the snake was killed—cut the rattle off as a trophy. But after I collected a jar of them, I begun to realize it was a waste of time and no limit, so I discontinued my trophy collection.

The large rattler I killed that week, I tried to get an Indian to skin it for me. It happened he came along about the time I killed the snake. And he didn't want to do it. And so I offered him a dollar if he'd skin it for me. He wanted the dollar, but he wouldn't touch the snake—neither would I.

During the summer of '34, we made a range survey of Pilot Creek. This is one of the larger tributaries to the Mad River. It was back country and we packed into the camp site in a central location, with enough food to last about a week, which we estimated would be the required time to complete the survey. We had a large number of unexpected guests the second night who stayed over with us, and by the time they left all we had left for grub was canned beans, condensed milk,



pancake flour, and canned grapefruit. So it was fortunate Pilot Creek was an excellent trout stream—we'd catch our breakfast, add it to the hot cakes. For lunch we would have cold hot cakes with cold trout, and then at night come back and catch some more trout for dinner. In order to hurry the survey in the absence of food, I walked the entire perimeter of the upper Pilot Creek watershed in one day, mapping as I went along. And this was the longest hike that I've ever accomplished in a day. It scaled off on the map to be twenty-eight miles. It wasn't extremely rough country, but it was far from level. It had ups and downs. I'd saved a can of grapefruit for my evening refresher when I still had five miles to go. When I got back to camp I was so tired that I drank a diluted can of milk and went to sleep.

In this area, there was a patented homestead. And according to the map, there was a section corner nearby. I needed this corner as a tie-in for the survey. I couldn't find it, so I went to the hillbilly homesteader's cabin, and asked the man at the door if he knew where that section corner was.

He says, "Yes. It's in my barn."

And I said, "I'd like to see it." And sure enough at the barn I saw the inscribed stake.

And I said, "Why do you have it here?"

He said, "So it wouldn't get lost or destroyed." [Laughs.]

I gave him a little talk about destroying section corners. That was against the law. He explained that he was protecting it and he hadn't destroyed it. Well, I asked him to show me approximately where he'd found it. And so I surveyed from there. At least it was more accurate than the corner in the barn.

It was standard procedure for us in the Forest Service, that whenever we found a land office survey corner that we place a metal tag for the location (this is a small yellow sign with a grid of a township), and then drive

a nail in the spot where the corner would be. Referring back to the corner in the barn, I didn't put a tag on the barn. However in almost forty years, I have put up location posters from the Oregon line through the Sierra to Mohave, and along the Coast Range from northern California almost to Santa Barbara. Also tags on trees or posts nearby to the corner in Colorado, Utah, Nevada, and recently have been locating some in Idaho. It was always a feeling of satisfaction for me to find a land office corner—either a section corner or a quarter corner. I think I derived as much pleasure at finding a lost corner or one that has never been seen since the original land office surveys in the 1880s, as some people have in shooting a deer. I have a mental picture of these location posters being bright yellow, easily deciphered. It was customary for us to put our initials on them. And that they appear the same now as they did when I posted 'em thirty years ago. However in 1963, I received through the mail, one of the location posters that I put up on the Mad River in 1933, and it was hardly legible—faded, badly dented—but it still had my initial on it.

That fall in Weaverville, (this may be an incidental, but it shows how things were done then compared to nowadays on the highways) there was an old dilapidated dump truck that the Forest Service had leased from a firm in Oakland, which they wanted to return to Oakland. It had no brakes, lights, battery, starter, or horn. And they wanted to return it, and I was anxious to get to the Bay area for a couple of days off, so I drove this truck to Oakland for 'em. I should've had a ticket the first mile on the highway, but the government wasn't gonna repair a rented vehicle, and they'd rather take the chance.

The first day I got as far as Vallejo, and it started to get dark so I knew I'd have to stop. So I picked out a hill at the edge of town and

parked it so that I could let it roll down the hill the next morning and get started. Drove it right through downtown Oakland and delivered it to the contractor. Looking back, it was a foolish thing to do, for me to drive it or for the government to allow me to.

On the Mad River there's an interesting person that I believe should be included in my comments. Ann Anderson, from a prominent Bay family, went to Mad River as a schoolteacher. And she decided she wanted to be a rancher, and so she homesteaded, and proved up on the homestead, and built up a herd of about two hundred head of fine cattle. She called the ranch the Double-A because of her initials. But unfortunately, she had no winter range nor did they put up any hay. About one winter in five, the weather's severe, and her summer range would be covered by snow in the winter. So she'd lose a large percentage of her cattle. After making the survey, she applied to the bank for a loan because of her losses. The banker came to me and inquired about it being a balanced ranch eligible for a loan, and I had to tell the banker that it was a good summer ranch, but it was precarious as a winter operation. Consequently, they refused to make the loan and I lost a friend because I felt I was obligated to state the facts.

The fall of '34 we made a quick survey of the Trinity Alps. Forage was mostly in meadow and stream types. The slopes were far too steep and brushy for livestock. It was heavily used by sheep. Alternating sections were owned by the Southern Pacific Railroad Company. We packed up a gentle, old mule with our camp equipment, sent the mule on up the trail by itself, while we mapped as we went. The mule knew the country better than we did. And about dark we caught up with the mule at Morris Meadow, where we made camp. We built a campfire and cooked our

evening meal and went to bed. In the middle of the night, my sleeping bag seemed awfully warm, and I thought first—well, there's a change in the weather, the air temperature's gone up—but I realized that it was the bottom of the bag that was hot. So we got up and found out that we'd camped on a peat area, and the campfire had ignited the peat underground, and it burned under my bed. So we spent the rest of the night and part of the next morning digging and putting out the peat fire.

Back to Weaverville for the winter, I became a Mason, am still a member of Trinity F. and A.M. Number 27. My father attended the event. He was a Mason for over fifty years.

---

## MODOC FOREST, 1935-1936

I stayed on the Trinity until about June, 1935 and was surveying on the east watershed into the south fork of the Trinity River, which will come into the story later on. But anyway, in the evening I went to the Dubakella lookout near my camp and found out there was a message there for me by the telephone. And found out that I was transferred immediately to the Modoc National Forest. They arranged to have a car waiting for me where the trail joined the road by a corral. I'd never been through this particular stretch of country before, but I saddled up the mule, put my sleeping bag on the back, and gave the mule its head. It brought me out over the trail in the dark to my car. I always took sort of a pride in being mobile or movable on very short notice.

Arriving at Alturas about noon the next day, I learned that the survey party was on the north end of the Warner Mountains, just south of the Oregon line at Dismal Swamp. I was to join them. And there my previous associate and friend, Floyd Iverson, was the chief of party. He'd worked under my direction, and now I was gonna work under

his. The Warner Mountains range capacity is mostly confined to meadows— some of them very severely over-grazed. We camped at a beautiful spring that had, I believe, the coldest water I've ever experienced. It seemed colder than freezing. We completed the survey of the Warner range in several weeks, and then moved to the Devil's Garden ranger district, which is a high, level plateau between the Pit River on the south and east, and the Oregon line.

I was acquainted with this area slightly by a visit the previous year and hoped that I someday could be the district ranger for this district. And that was one of the reasons I was happy to be transferred to the Modoc.

We spent the rest of the summer surveying the Devil's Garden. The south half was juniper, sagebrush, and grasslands. Some meadows, but most of those were privately owned. The north half (almost flatland) had an excellent stand of mature, western yellow pine intermingled a little with fir. But that was the Garden of Eden to me, instead of the Devil's Garden. Our survey was intensive and we

retraced section lines, but being so flat and the types large, we were able to survey three sections a day—or in one case I surveyed a township in two weeks. Glad to be doing it, because I was becoming acquainted with the district that I hoped would be mine someday.

That fall we went into Alturas to do our survey compilation work. And tentatively, I was scheduled to go to the ranger school at Quincy that I previously mentioned—this time as a student not as an instructor. Floyd Iverson was also scheduled to attend. But just before the school, I received another assignment. They detailed me to the California Forest and Range Experiment Station at Berkeley, and then they loaned me to the University of California, Berkeley, to help make an economic ranch and range survey of the five foothill counties: El Dorado, Placer, Yuba, Butte, and Plumas.

On this project we were to try to determine the total capacity of their winter range, and also interview some of the ranchers to get an idea of the economy. I remember I went to one ranch in the foothills of El Dorado county with a questionnaire, and at the house the wife said that her husband was out riding, that he'd be in for lunch and for me to wait and see him. Well, he came in about noon somewhat tired after a long morning ride, and asked me what I wanted. And I told him I'd like to interview him—fill out a questionnaire. He became very disgusted, sarcastic, and almost belligerent, cursing the government for wasting his time to get a lot of worthless information.

But he says, "Come in and have dinner, and I'll decide whether I'll tell you anything or not." Well, it was a delicious chicken dinner, but under the circumstances, I didn't enjoy it a great deal.

But after we'd finished, he says, "Now, what'da'ya wanna know?" So I got the

questionnaire out, started askin' him questions, and he very willingly and cooperatively gave me all the information. And before we were through, he told me everything he knew about all the neighbors, too.

This five-county survey has been published as a University of California document, but I never received a copy of it.

Many of the national forest range allotments were stocked far beyond the range capacity. This was partly due to a drive to produce more beef and lamb and wool to help in the World War I effort. The numbers dramatically went up at this time, and it was a long, slow process to reduce the numbers back down to a reasonable use of the range. In fact some of them have not been reduced yet to the capacity as of 1974. At that time the stockmen were the principal users of the national forest, and considered that they had at least a possessory right to the range, and the Forest Service was encroaching upon their rights to adjust numbers.

The Trinity country usage, however, has changed somewhat voluntarily by the stockmen, because many of the sheep originally grazing there (or the sheepmen originally using the Trinity) went out of business or found range elsewhere. The browse in the timber areas become too brushy, and the glades were not really suitable for sheep forage, but they deteriorated even though it was better cattle forage.

And the survey of the Plumas was made because of difficulties in range management. Overstocking. The same thing was true for the Trinity while we were on Mad River district, and the same was true of the Modoc. To a lesser degree, the Monterey division. There were just too many stock for the amount of feed, and so the first step in solving the problem was to make a range survey.

## UNIFORM CHANGES

That fall [1935] there was a change in the Forest Service uniform that I believe justifies comment because some of my good friends in later years felt that the Forest Service suffered by partial loss of identity. The uniform prior to this, especially after World War I, consisted of green whipcord breeches and coat, either high boots which we wore, or some even wore puttees as, I presume, a World War I surplus. But the distinctive feature was the large, hard-brim, Stetson hat—the same now that “Smoky Bear” wears and that is standard for the National Park Service. After we abandoned the uniform, the Park Service adopted it, and it does give a good impression of distinction.

The change in the uniform really was neither official, it seemed, nor suitable as casual clothes. A soft-brim hat didn't look like an office and is something that a civilian probably wouldn't wear. The uniform looked like coarse burlap and held a press about as well. Years later, Buck Wheeler commented his regret that the Forest Service ever abandoned the old style uniform, and I had to agree with him. However, I always wore the pine-tree badge with pride, and it in itself was about the only official identification.

## DEVIL'S GARDEN DISTRICT

As I had hoped, early in 1936, after my detail to the Sacramento-San Joaquin valleys, I was promoted to district ranger of the Devil's Garden district. The first forest a person works on and the first ranger district, in later years, always seems like the most important and the Utopia.

Our summer station was forty miles from Alturas, actually closer to the Oregon line. It was not a well balanced district. There

wasn't much recreation except hunting in the fall. The yellow pine timber, both on private and national forest lands, was not being harvested. It was still somewhat remote from the sawmills in Oregon. But I was very proud to be the ranger. The only help I had was a lookout on Blue Mountain and a forest aide, and I lived with him and his family at Crowder Flat.

One day the lookout was ill and had to go to Alturas, so I thought I'd run the district and be the lookout too. He was gone for two days, and those were the two longest days I ever experienced. From daylight in the morning 'til it got dark at night trying to follow the standard procedure for fire detection, scanning the horizon every fifteen minutes, certainly prevented me from doing anything else in regard to the business of the district.

There was a ranch four miles south of my station called Willow Creek, and the rancher (who was also a big grazing permittee) was complaining about beaver interfering with his irrigation system. So I proposed that we trap the beaver alive and transplant them to other streams where there was plenty of aspen and willow, and they would not interfere with irrigation. Well, he didn't think I could catch 'em. And he said that he would give me fifty cents a beaver and board me if I'd do it. He says, “There's hundreds of 'em.”

Well, I had good luck using the Bailey trap, of course with the approval of the California Fish and Game Department. And caught five surplus beaver; caught them by knocking a hole in the dam in the late evening, setting the trap that sort of folded up around like a suitcase at the break in the dam, and then go out real early in the morning, and find a big beaver in the trap. It's quite a task to walk on a flimsy dam about daylight, carrying a Bailey trap with a big, squirming beaver in it

maybe weighing fifty pounds—and it was a one man job.

Well, I'd take the beaver back to the station (I had a little one room building), turn it loose in the room and they'd seek out a corner where it was dark. I put shades over the windows so that it would be dark, as beaver are somewhat nocturnal. I had a big washtub in the center of the room, and I put the beaver in the tub each morning, which was necessary for their body functions. And the rancher's daughter came up to my station (and as a bachelor, I thought maybe there's a chance of romance) and wanted to see the beaver, so I took her in the room. Then she saw the washtub, and she wanted to see a beaver in the tub, and as I held the beaver by the tail and a hind leg, it squirmed and got away from me, and fell in the tub, and splashed this putrid, musky water all over the girl, and I've never seen her since [laughs].

After I'd caught five, the rancher asked me to quit [laughs]. I guess he figured if they were of some value to the Forest Service, they might be some value to him. Anyway, of the five that I caught, when we transplanted them to other streams more appropriate, one of them died. So I obtained permission from the California Department of Fish and Game to have it mounted as an exhibit for the office. So I tried to clean it out the best I could, and beaver is awfully hard to skin or prepare because of the tail and the web feet. But anyway, I took it to a taxidermist in fair condition, and he mounted it on a four-by-six-foot panel with a gnawed piece of aspen. It made quite a good exhibit.

The office moved, and I didn't have any place to put it except in my hotel room. And it wasn't too appropriate for a one room, so I took it to the University of California to see if the Museum of Vertebrate Zoology would be interested in it as a specimen. They were very enthused because they didn't have in their

collection this variety, *Castor canadiensis* race *shastensis*, so I'm on the list as a contributor to the museum from then on. Beaver will come into my life again as time goes on.

1936 was quite a bad fire year, although my district had only nine small lightning fires. But the country to the west, called Double Head, which was mostly cheat grass and sagebrush with some rabbit brush, started to burn. And there was a 20,000-acre fire going through this open country, and I was very concerned about it reaching my district. So they put me on the night shift to handle the division nearest my district, and they gave me instructions to build a fire line and then burn it out to the main fire. Thinking of it later though, the fire stopped the evening before because it run out of fuel, and not because of anything we did to put it out.

### AAA WORK IN CALIFORNIA

That fall they gave me another detail or assignment. This was beginning of the Agricultural Adjustment Administration, which now is known as A.S.C.S., Agricultural Stabilization and Conservation Service. At the inauguration of the program for range conservation on the ranches to determine what conservation practices would be appropriate, and then the government helped finance them on a cost share basis.

The area they assigned me consisted of Lake, Mendocino, Humboldt, Trinity, and Del Norte county. So I got back almost to where I had been several years before on the Trinity. Every ranch in Humboldt County participated, so we had to map each ranch and get a rough idea of what the grazing capacity was and then what improvements were needed such as water troughs, fences, re-seeding, and eradication of obnoxious or poisonous plants.



I made the first ranch inspection in the program in California, as again I was mobile and could reach the job within a day. At that time we also were asked to check on compliance or inspect the project to determine that it met standards and would be eligible for payment. I remember I went to one ranch in Humboldt County, and the rancher took me out and showed me a spring water trough development, for which he wanted to get paid. Well, it was obvious to me that the trough and the spring development had been in for many years. He wanted to get it under this program. You could see where livestock had trampled around the trough, compacting the soil from years of use, and even stepping over the pipe to the spring. I didn't want to argue with him, but I said, "Well, I'm not sure this would be eligible as a development this year, because the spring might go dry."

In reply he said, "Why that watering trough hasn't been dry for ten years, ever since it was developed."

Well, I said, "This sort of answers the question. We don't need to discuss it anymore." And he saw the point and said, "Well, you can't blame me for trying." [Laughs.]

At Point Arena, on a ranch in southwestern Mendocino County, I heard a new reason for poor range conditions. We've heard of all kinds of reasons why range is in poor condition. The wind, or the lack of moisture, or the wrong time for the moisture, or poor distribution of livestock, or harassment by predators. But at Point Arena the condition was blamed on the earthquake of 1906. It seems that everything happened in that part of the county that was adverse was blamed on that earthquake, because the fault line went into the ocean in the locality of Point Arena. The only thing that I can see where an earthquake could possibly effect range, would be the possibility that it could cause a

spring to dry up. However, when one spring dries up, there's a good chance of another one coming into existence due to the earthquake.

During this, same period, a rancher in Del Norte County, north of Crescent City, asked me to make an examination of his ranch. So we went out and looked over his property which was quite unique. It was right on the ocean. In fact, a light house was surrounded by a sheep ranch. And as to good range practices, I couldn't come up with anything to recommend. Watering troughs were of no value; he'd never seen his sheep drink, because of the dew and the fog. With the salt air, they got their salt requirement. A fence would be useless because whenever a fence was built, it would cause a sand dune, and the stock could go right up over the sand dune above the fence. With this sort of a climate re-seeding was not necessary—the grass and clovers grew year long. Well, finally I told him I had nothing to recommend. He said, "Well, I didn't expect you to. I just wanted you to see my ranch."

By the time I returned to the Devil's Garden district, my friend Floyd Iverson was promoted to ranger, because they planned to promote me to the Lassen National Forest as range staff man. So the next spring I went to the Lassen Forest. But I only worked there a half a day, because they detailed me back to the three-A project again for the next summer.

### **TAHOE FOREST 1937**

During the summer of '37, I was selected to attend the assistant forest supervisor school, which was held on the Tahoe National Forest. And part of our exercise was to make a general integrating inspection and a job-load analysis for the forest. During this inspection, we reviewed the land appraisal that was being made for the purchase of the



Hobart estate lands at Lake Tahoe. The Hobart estate wished to dissolve and settle with the heirs by selling off all of the Lake Tahoe lands which amounted to about 20,000 acres and eleven miles of shore line. In the appraisal the Forest Service made, which was agreeable to the estate, they were offered two and a half dollars per acre for these lands confined to the Nevada side. Senator Pat McCarran was successful on getting a bill through Congress authorizing the purchase (because it was outside the national forest boundary), but he was unable to get Congress to appropriate any money for the purchase. As I recall, it amounted to about a third of a million dollars. President Roosevelt was not too happy with the Forest Service, nor was Secretary Harold Ickes, and they didn't provide much help to Senator McCarran.

The option expired, I believe in 1938—and then Captain Whittell bought all of the Hobart lands for about two dollars and a half an acre, similar to that of the option of the Forest Service, with about eleven miles of shore line. Captain Whittell will come back in the story at a later time.

Later on I'll mention some of the purchases that are made of that land, years later by the Forest Service [for Nevada], closer to \$1,000 an acre.

When we were on the Tahoe National Forest making the job-load analysis inspection, at that time, we were very concerned about the railroad fires caused by trains of the Southern Pacific from Colfax to Reno. At that time the Tahoe National Forest protected the land in Nevada west of Reno, as well as within their proclaimed national forest boundary.

It was a mutual problem for protection, because the Southern Pacific were very concerned about their snow sheds burning, and also the railroad company owned each alternating section on each side of the track

for twenty miles as a result of the old railroad land grant that was made to induce railroad companies to construct a transcontinental railroad. In fact, one of the first lookouts manned on the Tahoe Forest was a railroad company lookout that observed much of the track and snow sheds up to Donner summit.

There was very little fire prevention in those days. It was more a matter of trying to discover the fire, and then put it out along the railroad right-of-way. The Southern Pacific had a fire train that followed passenger and freight trains from Emigrant Gap over the summit down to Truckee and then returned following other trains going westward. The train consisted of tank cars, hose, and a crew to extinguish fires that the trains might have started in route.

Of course, the national forest land had each alternating section too in a checkerboard pattern, so it was a cooperative effort.

Years since, the numerous fires substantially declined when the locomotives went from steam to electric diesel. Before, one of the main causes of right-of-way fires was brakeshoe scale that would fly from the wheels. Sometimes these would be in chunks about the size of a silver dollar and be red hot, and go down over the right-of-way enough to start flashy fuels. But with the diesel-electric, this situation was alleviated because of what the engineers call "dynamic braking." It wasn't necessary except in emergencies to apply the brakes to each wheel on each car, because the motor that drove the train was converted into a generator which produced a tremendous resistance. So the locomotive served as a brake for the whole train. Also, the earlier coal burning and then later, oil burning steam locomotives would have faulty spark arrestors on the stack, and this would be a source of fires along the right-of-way. Later diesel-electric seemed to burn the fuel

much cleaner, and ordinarily that type of fire didn't occur.

It always seemed to me to be a miracle that more of the north Sierra hadn't burned in the early days of development—railroads, logging, mining—because in those days the power was from wood and coal heat for generation of steam. Not only the railroads were wood and then coal burners, but there were logging operations using steam-driven tractors and donkey engines for pulling the cables, that were constantly dropping ash or clinkers and sparks. However, according to records there was considerable burned area. Proof of that is still evident by so-called "fire scars. After a forest fire on the more warmer or southern slopes, an invasion of manzanita, *Arctostaphylos patula*, and on the northern slopes snow brush, *Ceanothus velutinus*. Some of these perhaps go back almost a century—the fire scars and the age can be somewhat determined by the size of the conifer trees coming back up through the brush, usually fir, *Abies concolor*, on the north slopes, and Jeffrey or ponderosa pine on the southerly slopes.

I would like to insert in the record a publication by the U. S. Geological Survey titled *Forest Conditions in the North Sierra-Nevada of California*. It was published in 1902, and I believe is the first professional paper written in regard to the forest types in the north Sierra supplemented with the report are contour maps at half an inch to the mile scale, and hundred foot contour intervals. These maps, as far as the east side, with which we're principally concerned, extend from Beckwourth Pass in Sierra Valley south about to the center of Lake Tahoe. This field work must have been done, some of it, before 1897, the date of the Organic Act creating forest reserves, and of course, well before the establishment of the U. S. Forest Service several years after 1902.\*

In the write-up portion for the Truckee River watershed, it was estimated that about thirty percent of the merchantable timber had been destroyed by fire during the period 1850 to about 1900. Perhaps in those days fire was not as destructive as it is today because there was less accumulation of heavy fuel, so it's reasonable to suspect fire burned from Boca northeast to over and down the eastern slope of Verdi Ridge. And of course, the largest of them all was the Donner fire of August, 1960. Later on I'll discuss that fire in more detail.

Previously, I mentioned my colleague, Floyd Iverson, the two of us working together on range surveys in the Trinity National Forest in 1933. And at this time, would like to give a little character sketch on my friend and associate.

Floyd was born in Lassen County, grew up on a ranch in Big Valley, went to the University of California and graduated the same time I did at Iowa State. He was a good person to work with and one of my few very close friends.

Being out in the back country all summer could be a little trying if there was a clash in personalities. We never had a cross word between us. I must have been a little trying to him though, because he liked to eat regular meals, and I never was too interested in that if there was somethin' else to do. I remember one time when we were camped above Zenia, and on Saturday night we went to a dance with the local people. The music consisted of a drum and a piano. We had a very enjoyable time, but when we got back to camp about daylight we were scheduled to move to Rock Creek. And I suggested that we dispense with breakfast because it'd take time for the stove to cool off in order to pack it.

---

\*See Sack papers, UNR Library

So he went along without any comment. But we didn't have anything to eat 'til we made camp on Rock Creek about four that afternoon. And Floyd was becoming hungry and disgruntled. And he told me that he's accustomed to eating three times a day and liked lots of fried potatoes and meat. I've tried to feed the man in time since.

\* \* \* \* \*

During the time I was on the Trinity Forest, 1933 to 1935, there was very little timber sold from the Trinity National Forest. There was some reason. Of course, during the Depression building materials were not in demand. There were no sawmills in the locality except one down on the main Trinity at Hawkins Bar. At that time, and even on the Plumas several years before, twenty miles was considered about the maximum distance that logs could be trucked to the mill. If the distance exceeded that, railroads were thought to be most practical. Of course at that time, the roads were poor and the trucks were small. In forty years with the big diesel trucks and good highways, and equipment to build wide logging roads, a hundred (or even a hundred and fifty) miles is not considered prohibitive, but railroads are no longer built for logging.

I mentioned CCC and WPA work in Trinity eradicating obnoxious plants or poisonous plants. There was a common obnoxious weed that was invading the Coast Range area which was called Klamath weed or St. Johns wort, or *Hypericum perforatum*. This weed was not only obnoxious in competing with preferable plants, but it was supposed to have been somewhat toxic to cattle. It spread over range that had been excessively grazed, abandoned fields, and disturbed soil. It was usually confined in the Coast Range to an

elevation of below 4,500 feet. However in later years, I found it at 5,000 feet near New Meadows in Idaho and in Washoe Valley south of Reno.

The CCC crews attempted to eradicate it by grubbing and to some extent chemical treatment, neither one of which was successful. I understand now that there's a beetle that has been introduced that only eats Klamath weed, and in recent years I haven't noted as rapid spread—although the grazing types on the Coast Range have not been grazed as heavily now as they were previously.

Then returning to the Modoc National Forest in 1936 when I was promoted to district ranger—they allocated me five CCC boys as a sort of a work crew to do some of the things that needed to be done in which I had insufficient help. They were able to provide me with material, and then I'd use the CCC boys for a work crew.

One was a stock water trough that was in an arid part of the range north of Blue Mountain on the Devil's Garden. We needed it to get better distribution of livestock. So I worked the crew. We developed a spring and then dug a ditch from the spring to the trough for the pipe, but directly in line with the ditch was a huge boulder almost as big as a small automobile, a lava formation. The CCC boys were not allowed to use explosives, so during the lunch hour while they were sitting under a tree, I loaded the charge and fired off the dynamite. The boulder went up in the air about twenty feet, turned over a couple of times, and went right back down in the ditch [laughs].

A loose boulder is extremely hard to blast, so I used the boulder for another purpose. When the boys would go to town on a weekend, some of 'em would come back to work on Monday morning with somewhat of a hangover. So to cure that I would give

'em eight-pound maul and tell them to start breaking the boulder, brutal torture. And as they'd swing, you could see them blink with a headache. And one of 'em pleaded. He said, "I'll never get this boulder broken." But I said, "We've got lots of time." And eventually we did. Although by the time the boulder was broken, they came to work Monday morning in better physical condition.

They were also my fire crew. We had occasional lightning fires and they were good help. Also at Crowder Flat ranger station, we needed a little campground because we had good well water, and it was rather scenic beside a meadow. So the supervisor's office gave me enough money to buy material for a pit toilet, but no money for a carpenter. The boys dug the pit, and I tried to build the building. The plan called for a hipped roof, and not being a carpenter, I had a terrible time cutting the rafters. I used trigonometry, algebra, and every other means I could think of to get the rafters the right length, and to no avail. I finally used the cut-and-try method, starting out with a long two-by-four, cuttin' it off 'til it fit.

I had one of the boys change a tire for me at the station, (which was forty miles from Alturas) just before I was to take them into town for the weekend. And as we went down the road still eight miles from town, we had a flat tire. We got out to fix it and found out that we had no tools. The boy had left the tools on the ground at the ranger station. I didn't need to say anything to him, because the others told him plenty as we walked eight miles into town.

I found that the boys liked to select their own leader, and if they did, they'd work for their own leader better than they would a ranger or other higher overhead. It was quite a popular work crew (for the boys to get away from the main camp at Hackamore, California

towards the west side of the forest), but the head of the camp insisted on rotating the boys, so that others would have a chance. I recall one little fella actually shed tears when he found out that he had to leave our crew.

During August, as a ranger, the lookout reported a small fire in the timbered area of the north part of the district near the Oregon line. I went to the fire, and I found a log burning that a shepherdder had obviously set afire at his camp. I put the fire out and followed the herder into Oregon, finally caught up with him and found out that the sheepman had already fired him. So then I thought I'd bring him back to the Justice of Peace in Modoc County at Alturas to be cited. When we arrived at the state line at Pineville, he asked to leave me for a minute and get his bag and then we'd continue on. But apparently, he talked to someone and he came out and told me he wasn't goin' any further. Well then I was either faced with a long delay getting an extradition and bringing him back to California, or lettin' him go. I decided the latter was preferable, because of no real damage to the forest, and the red tape wasn't worth the effort.

That fall the deer hunters swarmed into northern, northeastern California, especially the Devil's Garden district. And they caused added work and problems. I remember one woman did not return to the hunting camp in the evening, and her husband came to the station frantic, afraid that she was either lost or kidnapped. I thought maybe she was kidnapped because he'd seen her earlier in the day talking to several other hunters. With that situation, we started the search immediately. Ordinarily, we don't hunt for lost deer hunters until the following morning. But if there was a chance of kidnapping, we thought we'd better get on the trail right away. So we spread out and started looking for the missing

woman during the night. I had arranged for a Coleman lantern lit in the lookout so that if the person was found, they'd turn the light out and there'd be a signal for us to go home. Well, the light burned all night while we searched. We arrived back at camp in the morning to reorganize and found out that the woman had arrived in camp only an hour or so after we started the search, and they drove home to the Bay area without telling anybody. We could still be hunting for all they cared.

Another case during hunting season, most of the hunters registered at our station and gave us some idea where they'd be camping. It helped us as a fire prevention tool—they felt that we would be watching them a little closer—but it was also a convenience to them. One night I received a death message to deliver to one of the hunters. And to reach his camp, I had to drive up through even part of Oregon and then back down into California near Steel Swamp. And when I went to his tent to tell him the bad news—and I was thinking how to do it with the least shock—he cursed at me and told me to get away and leave him alone. I found out that he didn't want to be seen because he was camping with a woman that wasn't his wife [laughs], but I then became rather indignant, and I flashed my light on my badge. I told him I wasn't here for anything but a message, and if he wanted to receive it, I'd give it to him, if he didn't, I'd go on my way. So I had to tell him—he cooled off—and I had to tell him about the death of his mother. People do strange things when they're out in the woods.

In the '30s and even up 'til middle of the '40s, the Forest Service had quite strict goals to meet in the suppression of fires. Each forest was allocated an allowable burn of a tenth of one percent of the area. If more than that burned, the following winter the regional office would schedule a board of fire review which was almost a knock down and drag out affair,

somewhat similar to a court martial or a trial. And the forest had to prepare a case to present for the board of review (which consisted of assistant regional foresters, even on some occasions, the regional forester) to explain all of the action taken, where the failures were, and how future action could be improved. Many forest officers failed to climb the career ladder after board of review. It wasn't quite that heads rolled, but they were transferred to other lighter jobs that required less fire suppression. And the few did get a boost up the career ladder that took good action in the minds of the board of review. After World War II that was discontinued, and for a forest with a serious fire record, they'd have an analysis of the circumstances, but it wasn't like a trial.

But as far as I know the quota of one tenth of one percent of the area still prevails. And that is a little inconsistent. For example, in the 1936 Double Head fire I mentioned that was mostly cheat grass and sagebrush—burned 20,000 acres, which far exceeded the quota. It's unreasonable to compare that with an area of dense, virgin timber that if it burned caused a severe loss and a century before the forest would be restored.

Might say during the winter following this Modoc fire, there was a board of review held at Susanville for both the Modoc and Lassen Forests. It was my first one and it seemed quite severe, especially to the ranger of the Double Head, who retired soon after the review. That was the first one, and then there was another board of review where I had a bigger part in the case in 1941. Those two boards were the only ones that I encountered, although on the Uinta and Toiyabe we had several fire analysis sessions. Not only did we have a quota in acreage burn, but they scrutinized the cost of suppression very carefully, and the number of man-caused fires which might indicate a failure on fire prevention.



---

## SEQUOIA NATIONAL FOREST, 1937-1939

Well, having gone to the assistant supervisor school in the summer of '37 and completing my detail to the three-A, I was transferred to the Sequoia National Forest as a range staff man. I'd heard that the supervisor was a difficult man to work for, demanding, rather intolerant, and expected everyone to work as hard as he did. His name was Joe Elliott. I reported in to him one Friday afternoon in July, and I could see that he was rather impatient. They had paid my salary for several months and my expense account while I was goin' to school and workin' for another agency, without his forest realizing any benefit. So rather abruptly, he gave me an assignment to prepare some maps of CCC programs for proposal on the Sequoia. I decided I'd do it, that weekend, since conditions were a little strained. And I worked all Saturday and Sunday drawing the maps, and I'm not the best draftsman. It was about 110 outside, and the drafting room he assigned me was on the south side of the building and was at least that hot inside. But anyway, I took the maps into him first thing

Monday morning, and it rather surprised him that I was new there and had worked on my first weekend.

The fall of '37, to get acquainted with Sequoia Forest, I made numerous range allotment inspections in sort of brief form and submitted them to Joe, and that was something new to him. The man that I followed was a good cowboy, but not much on paperwork or public relations. So Joe had an opportunity to know what the range conditions were, at least the way I saw it, and also knew where I'd been to learn the forest.

On the Plumas and Trinity and Modoc the use of the range was principally by sheep and cattle. But on the Sequoia Forest, I had a new experience which is typical of southern Sierra forests where recreation stock, pack stock, and saddle horses are actually using range in competition with cattle. Now turning the clock ahead many years, wild horses and burros are competing with domestic livestock.

Being the range staff man, we had several drift fences to construct, and we had the money for the wire, but we were short on

money for the posts. So I discovered a big redwood log laying on the ground, northeast of Porterville, and thought that would make excellent post material. It was about eight feet in diameter and sound as redwood is. About the time we cut two bolts—that is a seven-foot length for a post—and they split out beautifully, my new boss discovered what we were doing, and I got my first chewing out. He says that I would proselyte my grandmother. “Those redwood logs were sacred.” To me it was just a heavy fuel on the ground, but to him it was a fallen monarch. So we stopped that project. But we did get almost enough posts to finish our drift fence.

Then he gave me an unusual assignment. Many apiarists had permits to put out beehives along the foothills of the forest, especially up Kern River Canyon. The wild buckwheat was very desirable for honey, and there was a generous cover of this species of *Eriogonum*. The boss became concerned about whether there were too many beehives, so he asked me to determine the number of hives that should be permitted. It’s a little unusual for a grazing staff man, and although I did have experience workin’ in a honey warehouse (as I’ve mentioned, upon my graduation), that didn’t help me in determining bee capacity. I finally came up with the answer that when the bees started dyin’ off there were too many. And he accepted this with reservation and reluctance.

Joe was noted in the Forest Service as being one of the best supervisors in public relations. He attained the rank of supervisor the hard way. He had very little formal education beyond high school—one of the few remaining nonprofessional forest supervisors. But he got there by hard work. He’d work himself so hard that he’d become ill and have to rest up a day or two, and then he’d start on another project and go at full

speed. Along with his public relations ability, the Regional Office was also impressed with his personnel—direction of people. With him it was either the good ones were promoted or the undesirables were moved someplace else. In fact, the staff man that I replaced didn’t fit into his scheme of things and he was transferred. That’s why I was sent there to fill the vacancy.

His [Joe’s] big problem at that time was the threat of taking part of the Sequoia National Forest for a proposed Kings Canyon National Park. It happened that we fit into the same philosophy in this, that (as I’ve mentioned before in regard to the Lassen National Forest) I was opposed to dismembering national forests for the benefit of creating national parks. This threat was serious. It would have eliminated most of two ranger districts from the Sequoia National Forest to create a new Kings Canyon National Park. Most of the staff members were rather unconcerned, but I helped and joined in the fight that the supervisor was waging and gained his confidence almost to the extent of affection, and he almost treated me then as a son.

The following summer his family was gone. Porterville is very hot in the summertime, and anyone that can go on a vacation someplace else will do it. So he asked me if I’d like to live at his house during the summer ’til the family came back for school. It was a compliment and an attractive offer as I was living in an upstairs apartment. But I declined for two reasons. I didn’t think it would be good for my relationship with the other people on the forest. I didn’t wanna appear to be the fair-haired boy. And another reason that I didn’t tell Joe was that he loved to play poker. Many of the old time Forest Service people were really poker fiends, and I detested the game. I knew if I stayed with Joe he’d have a couple of more in and I’d have to play poker, and I didn’t



like it. I've always liked to play bridge and had played with some of the best. But poker bored me and I didn't wanna have to play as a guest.

Now resuming discussion of the Sequoia National Forest and the Kings Canyon National Park proposal, the general public is not greatly concerned whether the federal lands are national park or national forest status. They go out and enjoy the experience in the wild country with little thought as to jurisdiction or policies of use. So while I was on the Sequoia working under Joe Elliott, we decided the Sequoia National Forest must establish an identity. This was especially important because there was a Sequoia National Park as well, and we wanted the public to understand the difference. National forests were managed under a conservation policy of the many uses, while the national parks were preserved with very few or no use. To inform the public, we arranged a radio program weekly in which I was given the assignment of writing a fifteen-minute talk for the radio—I had to write it because it was also published in the newspaper—telling of the Forest Service programs, and the opportunities and uses compared to national parks, still being careful that we weren't derogatory towards the National Park Service in another department of the government. This was my first opportunity to appear on the air on radio. And it was quite a task that I worried about, preparing a fifteen-minute talk once a week, telling about the various uses of national forests such as grazing, hunting (because Rocky Mountain mule deer was a popular big game animal for hunters in the Kings Canyon area), mining (that's allowed on national forest lands, prohibited on national park lands), and in some cases even selective logging of pine and fir (theoretically to harvest the mature, decadent trees on the national forest land).

Getting back to the public reaction as to which is preferable—parks or forests—the Kingsburg Chamber of Commerce had a program in which a park ranger presented the proposal for national park. The chamber sent a wire to Washington supporting the National Park. The next day some of the members wanted to give the Forest Service equal time. So I went to the Chamber of Commerce meeting and explained the policies, management, objectives of the National Forest, and the Forest Service in Kings Canyon, and I sized up the group as being interested in hunting so stressed the point that hunting was allowed on National Forest land and not on National Parks. So following the meeting, they sent another wire to Washington repudiating their previous action, and stating support for remaining as National Forest land.

The Kingsburg Chamber of Commerce, which is typical of the chambers of commerce in many cities, were inclined to favor National Parks because they felt that it would stimulate the tourist industry and bring business to their town. (I'll mention that later in the Great Basin National Park proposed in eastern Nevada.) But I sized the members up as sportsmen who desired to hunt, so I stressed the importance of it remaining National Forest Land so they wouldn't lose land for hunting of deer. It had been established in the Sequoia National Park previously that deer will increase within a National Park, but they do not migrate from the park to help populate areas surrounding it that are open to hunting. Also, some of 'em appeared as Swedes that were interested in logging, so I stressed that National Forests sell timber, and trees are not allowed to be cut in National Parks. Several also were miners, and they wanted to be able to file claims if they found a prospect or made a discovery of mineral in the Kings Canyon watershed.

[Were these logging interests very active?] They were interested, but there were no saw mills in that south end of the Sierra. The Sequoia National Forest extended south to the end of the Sierra, and at that time there were no saw mills. We were working on a timber sale at Johnsonvale, further south. Of course, talking about logging in the Sequoia country is very sensitive. No one would ever advocate cutting the Sequoia trees for lumber. As I mentioned before, it was even forbidden to cut logs to make material.

As an inducement to get a national park, the Department of Interior (and I even suspect President Franklin Roosevelt had a hand in it) offered to build a reservoir on lower Kings River (which would be outside the national park) for irrigation, flood control, and power, if the water users of that portion of San Joaquin Valley would support a national park. Kind of a trade between agencies of the Department of Interior. So the water users supported the park and, of course, the Sierra Club did very strongly, which is traditional with them. When there's an issue between national forests and national parks, almost consistently the Sierra Club will support the national park.

Looking back, I'm a little disappointed that the Sierra Club didn't exert influence for the appropriation of money to buy the lands at Lake Tahoe at that time, which would have been a great savings to the taxpayers, rather than to be involved in an issue regarding lands that was already in federal ownership. In fact, if they and others had sufficiently supported an appropriation bill after Senator McCarran got an authorization bill through, it would have saved at least fifteen million dollars for the purchase of private lands for national forest status on the Nevada side.

Joe Elliott, as I mentioned, was a strong man for public relations, and in earning and

gaining public support. The Christmas of '37 at Porterville, he participated in a big outdoor program for children. We went up in the mountains and cut a fir tree over thirty feet high, brought it down, set it up as a Christmas tree in the main intersection, and had a program organized. But they were late in reaching the stage, and there was a dull period of time, and Joe asked me to get up on the stage at the piano and play Jingle Bells. He was rather desperate, but so was I. That's the only time I ever had to decline or refuse to carry out one of his orders. I wouldn't recognize Jingle Bells if I heard it, let alone play it.

Getting back to the Kings Canyon Park-or-Forest issue, in the winter each large town in San Joaquin Valley would have a big banquet for sportsmen. There would oh, be as many as fifteen hundred attend at towns such as Bakersfield, Fresno, Tulare, Porterville. So to support the national forest, I seemed to appear on the program quite frequently. This was my first experience in talking to large audiences over a microphone. But as I mentioned before, when you're dedicated to the subject, there's no apprehension or anxiety of talking to them. Although, that winter I had my fill of barbecue beef and beans, which was the standard menu for each sportsmen's club banquet.

I'd like to point out too, I have no issue with national parks as far as their purpose is intended. There are natural phenomena of national significance that should be preserved. But, as far as Kings Canyon is concerned, it was just another rough canyon in the mountains, without any particular, spectacular features that man might disturb or destroy or bother through use of the area as national forest land. We didn't use the term "multiple use" in those days. That didn't come until in the '50s when we started talkin' about multiple use planning. And of course it was

further emphasized with the Multiple Use Act of 1960. But we still recognized that there was more than one use for the resources in a particular unit, be it grazing, logging, mining, watershed, wildlife habitat, or recreation.

During '37 and '38 on the Sequoia, the U. S. Army Air Corps was working on a pilot project to detect forest fires by aircraft. And at that time, Colonel Hap Arnold at Marsh Field (later to become a five star general, and he'll come in the picture later), participated in the project and was a close friend of Joe. I became acquainted with him, and we went on pack trips especially in Kings Canyon to try to exert some more influence that it remain as a national forest.

The next year, 1938, a ranger and I were camped at Frog Meadow in the Greenhorn Mountains, making a range inspection of Peppermint Meadow, and during the night a fire patrolman came to tell me that I had orders to be at Porterville at five in the morning, and they would fly me to Trinity to the Bear Wallow fire. This was on the slope into the south fork of the Trinity River. I never knew just why they picked on me, whether it was because I was acquainted with the country or because I had a reputation of being a capable fire overhead. But anyway, drove down to the airport—I'd never been in an airplane before. And I thought back to 1928 when my mother tried to get me to ride in a Ford Trimotor, or they called it in those days, the "tin goose." Five minutes for five dollars just for the notoriety of having flown in an airplane. I declined. I wasn't exactly scared, but I didn't feel it was necessary because it didn't go any place. Well, then I sort of wished I'd had a little bit more experience.

Anyway, flying from Porterville to Fresno, this cabin plane developed an oil leak so we made an emergency landing in Fresno,

and I thought to myself, "This isn't a very auspicious beginning for my career in the air." The plane had to be replaced. So we took off in a World War I vintage Jenny—the kind with the open cockpit where the passenger sits forward, and the pilot sits aft, and of course, a biplane with fabric coverings of the fuselage and wings. We flew to Redding. I had no helmet or goggles, and being in the air stream immediately behind the propeller, was rather uncomfortable. They changed gasoline in the tanks and that spilled, so I was sprayed with gasoline. And when we left Redding, I found out that the pilot had never been to Hay Fork, and on my first day of flying I was to direct him in there. So it was sort of like the blind leading the blind. We made a landing at Hay Fork, California, and I thought it was a horrible situation. I could see huge pine and fir trees in every direction. But when we reached the ground, the natives told us that was the best landing that was ever made there. The plane crashed the next day scouting the fire, and I still had ringing in my ears and gasoline in my hair.

My assignment, the first on this fire, was to be a scout that was to locate just where the fire was, since I had become acquainted with that area when we made the range survey in 1933 and '34. They took me down to the river on a road from the west, and was to go up to a fire camp high on the mountain where there were about two hundred men trying to be supplied. When I arrived there about dark there were rather critical conditions. They had one poor old mule that was trying to pack water for both the camp and for two hundred fire fighters (mostly CCC) to drink. They tried some air drops, and in those days there was a bigger foul-up than there is now. In one case, they dropped a case of eggs free-fall while they dropped five hundred feet of rope with a parachute. The CCC's were climbing trees for

parachutes that were hung up in the branches. In one case I knew of, there was a case of peaches up there, and they went up after it. Well, seeing this situation, especially for water, I knew where there was a pack station twenty miles away, and they agreed that we needed a pack train. So I hiked through to the Bear Wallow pack station during the night. That was my longest hike at night which, as a coincidence, was only about twenty miles airline from my longest day hike. I arrived at the pack station about daylight and started them in with a pack train to the fire camp to principally carry water for the firefighters.

Then they assigned me day shift as a scout to locate both location for a fire line and locate the fire on the south side from the top of the mountain down to the river. I found a talus slide that extended almost from the top of the mountain clear to the river. When I arrived at the river there was a small fire camp with a radio. And I called back to the main camp the location of the slide, but instructed them not to put men on that part of the fire during the night because somebody would be very apt to be killed, either by rolling rocks or being caught in sliding talus.

It happened that the chief of fire control from Washington was at the fire camp. This camp was not the one that I'd left previously. It was out at a road head on the top. But Chief Roy Hadley wanted to know about not putting men on that slope at night, because of the chance of the fire getting away. And I said they wouldn't have to worry about crossing this talus slide during the night.

And he said, "Why won't the fire cross the talus slide?"

In desperation, I said, "Because of the lack of organic matter to burn."

Well, then he said, "Will, you come around to the main fire camp? And I wanna talk more about this." So I commandeered

a dump truck, drove thirty miles around crooked mountain roads up to the main fire camp. Arrived there about ten o'clock at night, and by that time he had gone. This was my first experience too, with radio, and an opportunity to meet the chief of fire control, which never materialized.

So then that night they put me on as a division boss on part of the fire. So it amounted to a forty-eight hour shift. This may be an incidental, but after forty-eight hours, I was unable to go to sleep. Of course, sleeping wasn't too inducive because all you had would be a couple of government issue blankets. But I do think that a fire camp medicine kit should have some sleeping pills in order for the men to get some sleep and rest to be ready for the next day.

After the fire was controlled, they returned me to Porterville by the train. About the time I returned, Bob Marshall was on the Sequoia Forest making an inspection, especially in regard to the Kings Canyon Park proposal. He had the reputation of being the most indefatigable hiker in the Forest Service. Later, the Bob Marshall Wilderness was named for him in Montana. He never rode a horse. It was always by foot. So some of the Sequoia personnel arranged for he and I to have a contest in hiking up Kings Canyon over the crest of the Sierra down to the Inyo or Owens River side, because I had a fair reputation as being a hiker too. Just before we were ready to start out, Joe Elliott said that he had more important things for me to do than to walk down Bob Marshall.

I guess he was prophetic, because the next day we had a big fire in Kern River canyon. They gave me a very steep division with about thirty men, and I weeded them out down to about fifteen, figuring that the other fifteen probably wouldn't be able to climb the mountain anyway. We got a line

up the steep slope into a rock cliff. We did have trouble though, with rolling, burning material that would go down parallel with our line, and then eventually cross so there'd be another swath of fire come up towards us outside the line.

I don't know that this has ever been published in any cookbook, but discovered that there's a yucca, *Yucca whipplei* or angel's candlestick, that lived on these steep slopes, and when it would burn it would come loose, and the burned leaves and the stalk would be gone, but the body of it about the size and shape of a pineapple would roll down the mountain and carry fire. But the main point of that is, I discovered by pulling the stub of the burnt leaf out from the cone, it was delicious to eat. It's sort of a combination between asparagus and artichoke. And of course, it had been cooked. So some of us had our fill of a rare, new form of vegetable.

The Kern Canyon fire was the only fire I fought while on the forest. I might say that the Sequoia Forest was rather unique botanically. Most of the principal grazing types were high, mountain meadows—along the west slope of the Sierra were pockets of the Sequoia, *Sequoia gigantea* or Sierra redwood. On Scodie and Paiute Mountain, the desert influence began to show in which on the tops of these peaks occurred Arizona cypress, *Cupressus arizonica*. And then around the fringes of the southern units of the Sequoia occurred the Joshua trees as the forest was near the Joshua Tree National Monument.

Breckinridge Mountain, the furthest south point of the Sierra Nevada that's national forest land, had a remarkable stand of second growth sugar pine. I've heard of fires since in the area, and I've often wondered if that beautiful, young growth of sugar pine suffered. If I follow my routine of returning after forty years to see the change,

in '77 I hope I won't find that the sugar pine is gone.

I'd like to add a little about Bob Marshall. He was in recreation and lands in the chief's office. Came from a very wealthy family in the East. But was a fanatic hiker. In fact a few years later, he died of a heart attack, and I have often wondered if it wasn't just over exertion from his long hikes. His brother was a prominent member of the Wilderness Society and the Sierra Club.

While we're on the Sequoia, might mention Mineral King, which has been in the headlines for years in regard to a proposal of Disney for a year-long winter sport resort. At the time I was on the Sequoia National Forest, that was just sort of a back canyon of little significance, although it was a federal game refuge. We did some work with CCC's for stream improvement. The long, uniform gradient stream lacked pools for good trout habitat, and we had some check dams to break up the long, continuous, uniform flow to make pools, enhancing both habitat for fish and makin' it a better place for fishermen.

The following spring I was out with the ranger in the "dome" land that is south of Cannel Meadow. It's called dome land because there's several square miles of large granite boulders so close together that a rider, or even on foot, has to take a very devious course to get through. Even people have been known to have gotten lost in the area. But we looked across the canyon, and we saw the largest bear, at least that I've ever seen. It must have been a quarter of a mile away, and it was so big, at first looked like an Aberdeen Angus steer. But we knew there weren't any cattle in this area and deducted that it was a huge bear. So we rode towards it, and it traveled through the country ahead of us almost all day. We could see where it'd stopped at springs and wallowed a little, and then continued on its



way. And I've often wondered if it wasn't the last grizzly in the Sierra, because its size and behavior wasn't typical of the black bear in the south end of the Sequoia. (Although they are very numerous.) I remember one time we rode on up to a black bear with three cubs, which is rather unusual, and she was trying to chase the cubs up a tree to evade us. The horse I was riding was very scared of barbed wire and rattlesnakes, but was just as indifferent to this bear as if it had been a black rock.

*Mary Ellen Glass: There wasn't a lot of Taylor grazing problem in this area. You mentioned that the grizzly bear was the size of cattle, but then that you hadn't seen any grazing cattle.*

Well, in the "dome land" or Bartolus country, it was just too rough and inaccessible and lack of meadows for domestic livestock. On the west slope of the Sierra in the San Joaquin Valley, there was very little public domain or land that would have been at that time, under the Grazing Service. It seemed if there was any public domain land, it was taken up for oil well prospects. On the east side of the Sierra or east of the Kern River drainage, the lower desert lands joined the public domain for the Mojave-Inyo unit under the Grazing Service at that time. But that was mostly winter range, and if stock didn't have a permit on the national forest in the summer, there was not balanced unit. There were very few sheep on the Sequoia National Forest. Previously, there were large bands of sheep in the Bakersfield area that had permits for summer range in the mountains and would go around the south end of the Sierra clear up to the Bridgeport country. But many of the winter sheep ranges were converted into agriculture for the growing of cotton, so the sheep numbers (even on the east side of the Sierra) drastically declined.

I might mention on the Tulare River we were seeking a location for a fish hatchery, and to convince the state or the U. S. Bureau of Fisheries that it was a good stream and a good site, one of my duties was to take the water temperature about every week during the summer to show that the stream was cold enough for rearing of trout, but not too cold. I will get later into Hot Creek and Convict Creek hatchery sites on the east side of the Sierra.

*How did you get along with the California state representatives of their own forestry and fish and game agencies?*

Well, at that time the state Division of Forestry was woefully underfinanced and poorly equipped. Their principal function was to try to suppress foothill range fires. The Fish and Game Department was more in the custodial class where most of their work was law enforcement by wardens with very few technicians. And '39 and '40 I'll get into the Forest Service effort to try to have the Fish and Game Department scope extend beyond law enforcement.

I feel the need to explain a little better what is considered the east side, as far as the California region of the Forest Service is concerned. The east side does not necessarily follow topographical divides, such as the crest of the Sierra. It's a common term more applicable to the country with somewhat of a Great Basin aspect, but still might not necessarily be tributary to the Great Basin. Or, as an example, areas where sagebrush, *Artemisia tridentata*, and bitterbrush, *Purshia tridentata*, occur, could be considered as east side, and this would include part of the Modoc, Lassen, Plumas, Toiyabe, Tahoe, and Inyo Forests. Although portions of these national forests do drain into the Pacific slope rather than the Great Basin.

## ASSIGNMENT TO THE REGIONAL OFFICE - SAN FRANCISCO

Now, continuing with my assignment on the Sequoia National Forest in '37 and '38, working under supervisor Joe Elliott, who seemed to always want to have his, you might say preferable personnel, move up the career ladder. He was always available for special assignments and details or transfers if necessary. And the people that impressed him, he was always willing to sacrifice them for details or have them promoted to other positions off the forest. He encouraged me in July of 1938 to apply for a scholarship sponsored by the Department of Agriculture, allowing the candidates to work towards a master's degree in universities in the vicinity of Washington, D. C.

He gave me a very good recommendation, a copy of which is enclosed, and in making the application, I wrote two and a half pages, also enclosed,\* which may seem redundant or inarticulate, but it was done to follow an outline required for the application. Since recently reading this again, I'm reminded that I was, even in those days, anxious to see land use planning, and as far as the federal or national land use plan, it's still in the making. I believe a bill died in the last session of Congress.

In '38, it was prior to the use of the common term "multiple use" and also in over two pages, no mention was made of "ecology," of "the environment." Later on, I would like to express some of my sentiments in regard to these two overworked terms.

Well, soon after the application was submitted, there was a change in the course of my career, and I was detailed to the California regional office of the Forest Service to prepare for, and help to conduct a ranger school at Feather River training camp several

miles north of Quincy. During the CCC days, they had developed quite an elaborate school in the field, consisting of dormitories, classrooms, staff housing, and dining hall. I was to help Peter Paul Pitchlyn, who was chief of personnel management for the region, conduct the school. I was to be the manager, and he was the "dean" who had also conducted the assistant supervisor training sessions that I had attended in Berkeley and on the Tahoe the previous year.

I think I should say a little bit about Mr. Pitchlyn, who was always known by everyone as "Pitch," because he was an unusual personality to be in the Forest Service. He was fastidious, articulate, artistically inclined. He did quite well with oil on canvas. He was philosophic and almost a hypochondriac. He always seemed to have some ailment. In the next six months that I was with him both at Feather River training school, and sitting opposite him in his office at another desk, each morning it seemed that we had to have a diagnosis of ailments that had developed during the night. He was also accident prone. He could hurt himself whether it was walking around in the woods or simply cleaning the wash basin. He'd never learned to drive an automobile. The first time he tried it, he rolled it over. And I made it a project for the next six months to try to teach him to drive. He wanted to, but was very reluctant. I had a big area, where there used to be a ball field at a CCC camp picked out, where I'd turn him loose and drive the car around. But he never reached the point where he'd take the wheel. Although, sometimes he told me how to drive. I guess I'm not too good an instructor in some of the more common things in life.

---

\*See Sack papers, UNR Library



I also failed to teach Floyd Iverson to swim in 1933, when we were camped on the Van Duzen and Mad River. I seem to be able to teach photogrammetry and taxonomy and even the courses that I presented at the Renewable Resource center at the University of Nevada, better than to teach some of my former associates fundamental things in life.

I'd like to mention in the six months that I worked for Pitch, and wrote letters for his signature, I don't believe a letter ever cleared on my first attempt. It either was the wrong choice of words, or arrangements, or he felt a lack of clarity. However, there was one thing certain—my letters were never too long. It's been my policy to try to limit letters and memorandum, whenever possible, to one page. I've followed that through most of my career, and feel if you can't say it on one page, you're redundant or excessive. Perhaps before the readers complete this reading of my experiences in oral history, they'd wish I'd adhered to the policy.

I had some apprehension about being the manager of the ranger school because I had never been a student at the school. I explained this to Pitch, and he said that the ranger school was principally for assistant rangers to prepare them to be rangers, and I had never been assistant ranger. I was promoted from range survey member to district ranger, and skipped that step in the ladder. This was a different kind of a ranger school than those previously though. It was the only time that the former students who became rangers, were brought back for a refresher course. It was up to me to make the schedule and arrange for their accommodation, and it was rather complicated because some of the trainees were there two weeks (some four weeks) and a nucleus were there for the full time of six weeks. It was a conference method of training, and I wanted a nucleus to help

keep the continuity and carry on during the entire session. Some of those that were there full six weeks were getting rather restless at having to sit in class room all day.

It gave a good opportunity not only to bring some of the rangers more up to date in current forest management and public relations, but it gave Pitch and I an opportunity to make appraisals of district rangers in regard to future promotions, or in some cases to remain as rangers for their career.

The day the school ended (the day before Thanksgiving in 1938), I drove Pitch back to Berkeley and took him to his home. Just as I checked in my room in the hotel the phone rang, and it was Pitch on the line tellin' me that we had to go to a big fire down at San Bernardino. So I drove all night. Of course, he couldn't help relieve driving. Arrived at the fire just at the edge of San Bernardino city limits about eight the next morning. It was called the "Arrowhead fire," because the Arrowhead resort had burned, everything except the swimming pool. It was full of water. Arrowhead got its name from a huge landslide up on a steep side of the mountain that resembled an arrowhead.

They assigned me a sector on the divide between Waterman Canyon and Devil's Canyon. I'd fought lots of fire in northern California, but a fire in southern California brush fields was somewhat new. We cleaned out a firebreak and had a good line. And then I asked the fire boss for permission to burn out the line to the fire down in on the slope of Waterman Canyon. He refused, and I didn't have the feel of southern California fires enough to argue with him. But anyway, about five o'clock that evening the fire came roaring up the slopes of Waterman Canyon, went over our heads, and down into Devil's Canyon. I've often wondered since if he had approved

my plan what would have happened. Perhaps my fire would have gotten away earlier in the day, and burned more of Devil's Canyon. There's no way to know. But even in northern California, where I had the feel of forest fires, it's dangerous to burn out line during the day. Sometimes we can get away with it.

After the big slop-over into Devil's Canyon (which was a vital watershed that supplied San Bernardino with their subterranean water supply), there was a huge infiltration of equipment to help pick up the slop-over. There were seven bulldozers, twelve tankers, and several other trucks to haul water to the tankers with a big crew of men. Incidentally, all of these came from the State Division of Forestry or Kern County. Previously I had mentioned the weakness of the state protection forces, but now times have changed and the state and Kern County were helping us fight a fire within the forest boundary. Kern County, incidentally, had a very strong wildland fire fighting force that was financially supported by the oil companies that had many oil wells in the area.

That being Thanksgiving Day, I was lucky to have eaten two sandwiches. That evening they took me into San Bernardino where I stayed in a hotel. First night's sleep I'd had for two nights. When I got up the next morning, there was no sign of anyone around to take me back to the fire camp. So I had an unusual experience: I got on the streetcar and went out to the camp. That day they assigned me a sector to protect the Devil's Canyon guard station. We had one difficult corner, and tried a new technique where we had the crew not only make a strong fire line, but actually cut the brush and pack it back into the burned area. And were successful in holding that through the day.

That evening Joe Elliott from the Sequoia Forest showed up. As I've mentioned before,

he was always willing to give a hand in emergency, regardless of where. Although he had been supervisor of the San Bernardino forest previously. One of the reasons Mr. Pitchlyn and I went to the fire from the Bay area was that the supervisor was absent at that time. I believe it was due to ill health. So that night then, Joe Elliott was sort of the acting fire boss, and I was his escort—driver to inspect the lines during the night.

Next morning we had the fire controlled, and I returned to Porterville with Joe to catch up on some of the work that had accumulated while I was on detail to the regional office. But I had to go back to the regional office because of another emergency that had happened concurrently with the period of the ranger school. And that was the big hurricane in the New England states that went inland about September 20, covering part of New York, New Hampshire, southern Maine and Connecticut. This caused a national emergency as there was estimated to be two hundred and fifty million trees either broken or uprooted, and there was over three billion board feet of timber to be salvaged. In addition to removal of all the heavy fuels from the downed timber, there was need before the next spring to open roads, trails reconstruct communication lines.

Fred Bacon, who I'd taken place of on the detail for the school, was detailed head personnel management for this big salvage that the Forest Service was assigned. And the salvage had its complications because the timber had to be cut into lumber within the next six months to prevent defect and rot. At the same time, that much timber converted into lumber would flood the market of the nation. So there had to be a schedule worked out for salvage, plus a release of it to the market.

In 1973 when I was back in the New England states, there were still trees that had

broken off sixteen to twenty feet high from that hurricane.

So as Bacon was detailed to New England states, I was detailed to San Francisco to fill in behind him on personnel work, especially classification. Personnel management is a challenging profession as a branch of the Forest Service, but to me, it's too confining or there's too much office work. Fred Bacon was an unusual individual as a forester; he preferred office work. But the next spring when he returned, I was glad to see him back so I could return to the field. Although, my assignment then changed.

I was promoted to head the section of wildlife management for the California region, this time to work under Fred Cronemiller, who was assistant regional forester heading range management and wildlife management.

Cronemiller was commonly known as "Croney," and had the respect of most of the people in the Forest Service. However, Joe Elliott and Croney didn't always see eye-to-eye and there was a little bit of friction or clash of personalities. Joe wasn't very enthused about me going into wildlife management in Cronemiller's office. Incidentally, I might say, when I left the Sequoia, Floyd Iverson (who took my place as ranger on the Devil's Garden district on the Modoc), then followed me to be grazing staff man on the Sequoia National Forest.

"Croney," as he was known to his associates, friends both in and out of the forest service, was an energetic, little, practical man. A good horseman, a good camp cook. Always looking for more worlds to conquer. He was a good writer. As background, he grew up in a family-published, local newspaper in Oregon. Croney attended Oregon State College (now called University) and majored in forestry

and range management. It was good to return again and work under a professional forester, although the experience I had with Pitch and Joe will always be remembered in a fond light.

---

## WILDLIFE MANAGEMENT IN CALIFORNIA

When I had returned to Porterville with Joe Elliott, we received word that the Kings Canyon National Park bill had passed in Congress. Joe was rather discouraged. Some of his rangers and staff seemed indifferent, and I had the attitude—we might have lost a battle, but let's win the war. And there was another dark cloud on the horizon, because Secretary of Interior Harold Ickes was proposing that the U. S. Forest Service and the national forests be transferred to the Department of Interior and perhaps from there form a separate "Department of Natural Resources. Ickes had the blessing of President Roosevelt, so the Secretary of Agriculture was in a spot where he could not do much to defend the Forest Service as a bureau in his department. This has been a continuing struggle up to the present time. I've always felt the Forest Service belongs in the Department of Agriculture, because national forest resources are a crop from the soil—not only timber, but forage, and even wildlife. The lands are all watershed, which produce water for agricultural purposes as well as for other uses.

I mentioned that I was promoted to associate range examiner, heading wildlife management in the regional office in the spring of 1939. For the next two years, it's difficult to distinguish 1939 from 1940, and will try to group the events, not regarding the specific dates. Things happened so fast in such a variety of subjects, it's hard for me to recall just what time it was.

Wildlife management was a relatively new function in the Forest Service and Joe didn't think that it was one of the most important activities. He would have rather seen me be more in general administration. There was only one in the region at that time, that was assigned full time in wildlife work, and that was myself. Times have changed. Now forests have wildlife managers, and sometimes even two— one in mammalogy and the others in ichthyology.

I had some apprehension about accepting the new assignment. I was not an ardent sportsman nor a zoologist, but the regional forester, S. B. Show, and Cronemiller said one of the reasons I was selected was because

they thought I had an open mind and would not be prejudiced as some sportsmen were. I mentioned that I made the first map of overgrazed deer range when I was a ranger on the Devil's Garden in the Modoc. This was an unusual situation where there was an interstate deer herd. The Rocky Mountain mule deer would summer in Oregon and then come across into California to winter—part of which was the Devil's Garden district—and two or three hundred thousand acres showed signs of excessive deer use, especially by juniper being high-skirted. Might define high-skirt—means all the foliage removed up as high as deer could reach. And this was certainly attributed to deer rather than livestock, because cattle and sheep did not eat juniper. Mountain mahogany also showed the same characteristics. Of course, bitterbrush is relished by both livestock and deer. We've established some protection plots to determine what actual use was on these species, both by wildlife and domestic livestock.

And also they felt I was qualified because I had worked with the sportsmen's clubs, especially on the Sequoia National Forest in regard to the national park issue.

Ed Smith, supervisor of the El Dorado National Forest, might have summed up my new assignment in a few words. He was quite a humorist and sort of known as the jester of the region. And he asked me what I was doin' in wildlife management when I didn't know a bat from a linnet. I told him I knew what a bat was because it was a flying mammal that visited our tents and cabins on the Modoc, especially at night when the lantern was burning. But I admitted I wasn't too sure about a linnet. Incidentally, I had worked with Ed earlier on the foothill range economic study for El Dorado and Placer County. And should have mentioned at that

time the common practice of the ranchers in the Sacramento Valley—driving their herds of cattle over Highway 50 to the south end of Lake Tahoe for summer range. Much of what is now the city of South Lake Tahoe, at that time was important summer range for herds of cattle from lower El Dorado and Placer, even Sacramento county. Then national forest range surrounding the valleys at Tahoe were intensively used both by sheep and cattle. In thirty years—quite a change from livestock to humans.

In the regional office, I shared a room with Del Fausett, who was assigned to head up range surveys. And they were beginning to use aerial photographs and the actual field mapping, taking a stereoscope and stereo pairs of photos out in the field to map the forage types. I was always interested in aerial photographs, so we had a mutual concern. He invited me to dinner one evening soon after I took my new assignment, and I stayed two years. They had an extra room and enjoyed their association both officially and then with the family off the job.

At that time, the California Fish and Game Department placed emphasis on law enforcement. Most of their people in the field were game wardens. There were hardly any wildlife technicians. The branch of Marine Fisheries was more advanced in technology and management than the upland game ranges. So one of my functions was to try to encourage the state Fish and Game Department to branch out into upland game management. They were hampered in this because the way the constitution of the state of California was written, management of wildlife could not be delegated to the Fish and Game Department. So we endeavored to work towards an amendment to the state constitution. Even the game refuges were established by act of legislature rather

than on the basis of action by the Fish and Game Department. And there were many refuges in California. The Forest Service realized that they were obsolete, not needed for the management of deer, although they did condone them in some of the southern California brush forest, because it was a means of keeping the public out of the area during the extreme fire danger, which continued almost year 'round. And southern Californians, for some unknown reason, insist on hunting deer in August at the peak of the fire season. It's just a tradition and habit, and if they can't hunt at that time—they're not gonna hunt. We tried it.

I've always been convinced that you can't manage natural resources by constitution or by legislation. Natural resources should be managed by professionals who collect scientific data and interpret it, and can apply it in the form of management plans. It takes just too long to amend a constitution or pass state laws to fit the constant change in conditions regarding wildlife, especially big game.

Also, as an endeavor to get the state more into wildlife technology, the Forest Service financed a number of studies, which was part of my responsibility to supervise. These are studies and not research. Administratively, the Forest Service is not allowed to do research. That is to be performed by another branch of the service, who are the sole group strictly for research. But the studies included on the Los Padres, a coyote-deer relationship study, and a little later on the Angeles Forest, a study of deer in relationship to watershed. This may seem rather strange that there would be a consideration for this relationship, but deer in some cases do prevent erosion where the deer trails are on the contour, while at other times they can accelerate erosion where the deer trail may go up and down the slope. Another study was on the San Joaquin Valley

Experimental Range, studying the life habits of valley quail. The regional forester, S. B. Show, was a good ornithologist and also a bird hunter—both upland birds and waterfowl—so a study of the quail and how to extend their range as a game bird appealed to him.

Ben Gladding was my technician on this project. He later became director of the California Fish and Game Department. He had a Ph.D. in biology and was a very competent man, although sometimes his independent thinking conflicted with some of his superiors—especially Mr. Show, who was vehemently opposed to any form of wildland fires.

Then on the San Bernardino Forest, we pioneered in the development of the guzzler, which is a device to provide water for upland game birds—in this case the valley quail and perhaps some Gambel quail. The Mojave side of San Bernardino provided food and cover for quail, but lack of water limited their occupancy. So Neil Rahm, who later became regional forester in Montana, was our technician on this project and used fifty gallon oil drums to hold water, and then a faucet that barely dripped provided water for quail. This idea has been expanded years since. And even here in Nevada, it's used to improve the distribution of both valley quail and chukar partridge. In fact, east of Reno on the Bruce Clogston city park, I installed two guzzlers with refinements that included a catch basin, so that the rain and snow would fill the tank to provide the water instead of our first models where water had to be hauled about once a month to fill the tanks.

Then on the Shasta National Forest, we had a creel census on Squaw Creek. Squaw Creek now is almost all flooded by the Shasta reservoir, but at that time was a tributary to the Pit River. We had a biologist that recorded all the fish that were caught on the stream



as to their length and sex, and he collected scales from the fish. Then the following winter, I worked at Stanford University about a month using the scales to determine the age, as a scale has annular rings somewhat similar to a tree. Also, the space between the rings, looking at it through a microscope, determined the rate of growth and the shading of the ring would indicate whether the fish had spawned or not. It was tedious work for a month looking through a microscope, but it was in cooperation with the Fish and Wildlife Service, especially Dr. Needham who I will mention a little later.

Another technician was assigned to a study of Convict and Hot creeks on the Inyo National Forest. At Convict we were trying to determine which is preferable—hatchery-planted rainbow trout or native-produced trout. Sometimes the people think that the way to solve any fish population problem is just to plant fish from the hatchery. But there certainly is a place for native-reared fish as well. Hot Creek was studied as a site for a fish hatchery which was later built by the state Fish and Game Department. The water was warm and there was an abundance of food, especially fresh water shrimp, so that fish in this type of hatchery grew very rapidly. Some of the other hatcheries on the east slope of the Sierra were not sufficient, because the water was so cold that the fish (the fry and the fingerlings) didn't grow fast enough.

The same technician then, in the winter time, studied and surveyed the old Mono National Forest winter deer range. This technician's name was Reed Nielsen who later made a career in the Fish and Wildlife Service.

The technicians each month would send me a report of their progress, and included in that was a tabulation of animals that they had seen. The technician on the Los Padres, [Paul] Bartholomew, put in his report one month in

the list of animals, "one monkey." And when I saw that I became a little alarmed. I didn't know Bartholomew too well, so I thought next time I go down to his area, I'll check and see whether he has cabin fever or been drinking too much. Well, he was happy in the back country in his cabin. And when I suggested in the evening that we have a drink, he assured me that "demon rum" would never touch his lips. And I found that he actually did see a monkey. It had escaped from someone's little zoo in Santa Barbara and went over there to live with him.

Much of my time was spent with sportsmen, attending their meetings, trying to impress upon them the need to amend the constitution, and also to favor "either sex" deer hunts on overpopulated Rocky Mountain mule deer range. I remember one meeting in Redding where the sportsmen were on one side, the Fish and Game Department wardens were in the middle and we were on the other side of the issue. So it occurred to me—I told the old story about the three blind men and the elephant. One felt the tail and thought it was a rope, and one felt the sides and thought it was a barn, and one felt the trunk and thought it was a tree. Well, I used this as an illustration that we were all talkin' about the same thing—we just had a different impression. And at that time an inebriated sportsman in the back of the room jumped up and said, "Mr. Sack, that's beside the point. There are no elephants in California."

I had an interesting assignment as on sort of a loan to the Corps of Engineers who were making plans for flood control dams on the Russian River. In the present day there would be environmental impact statements to fill a bookcase on the subject, but things were different in those days. And I understood it was for a preliminary report, so I spent four and a half days on the Russian River visiting

the proposed dam sites. And with the use of aerial photographs, I could determine the extent of migration of salmon, steelhead, and striped bass. Went back to the office thinking it was just a preliminary, and spent half the day dictating the report. To my surprise, it was used word for word in the appendix at the final report at the Corps of Engineers. I believe now those dams have all been constructed, and although there has been slight sacrifice to the spawning beds of salmon and steelhead, the control of floods offset the loss at anadromous fish.

In the early spring, Fred Douthitt (another assistant to Mr. Cronmiller) and I were invited to see one of the most notoriously overgrazed winter deer ranges in the west. This was called Murderer's Creek, a tributary to the John Day River near and within the Malheur National Forest in Oregon. We packed into the area (there were about twenty in the party) and observed some at the most severely overgrazed winter deer range. That's ever been detected in the West. Even the boughs at the fir trees were eaten to the height that the deer could reach. This party included Ed Cliff, who had a comparable job to mine in Region Six (that was Oregon and Washington) and later became the chief of the Forest Service. This was an unusual condition on Murderer's Creek. There was abundance of bunch grass, yet the browse within reach had been totally destroyed or consumed.

The winter of '39, the Fish and Game Department and our office cooperated in making an inventory or census of antelope in the northeastern portion of California, using aerial photographs. They flew over the herds, took pictures of them, and then we counted the antelope in the pictures when they got back to the office.

The summer of '40 Del Fausett had a range survey crew on the Tahoe National Forest in

the vicinity of Stampede and Prosser which are now reservoirs. And at that time the introduction of the use of stereo pair aerial photos in the field for accurate type mapping was used.

### CALIFORNIA CONDOR

A vanishing or diminishing species that was given considerable attention by me and some of the Forest Service personnel in southern California was the California condor. Much had been written about this bird by ornithologists, but there was much field data or observations that had never been recorded or assembled. So I endeavored to get all of the information from everyone that knew anything about condor and assembled it between two covers and one small book. I don't believe this is quite the time for me to digress into vanishing species. I believe it'd be better later on to give some of my philosophy. Anyway, in regard to the condor, I mentioned in the Report on Wildlife Within the National Forests of California (1940) that it was my opinion that the condor prospects are not too good, because I had a theory that they had lost their principle source of food. I haven't seen this published by any other writer, but I'm convinced that dead whale washed up on the beaches of the southern coast was the natural, original food for condor. The condor consumes a great amount of carrion and a dead whale could provide food for quite some time. Of course, a dead whale cannot be tolerated now on the beaches with the adjacent habitation.

Following the elimination of whale as a food, the condor lived on dead sheep that were in great numbers in the upper portion of the San Joaquin Valley. Now the sheep numbers have diminished so that even a second resort food has disappeared. So I am

rather pessimistic that this big carrion-eating-vulture-type bird has a very much of a chance of surviving.

I organized a system for detection or observation of condors. There're about seventy lookouts in southern California. And I set up a schedule for the lookouts to record their observations of the birds at a particular time of day, and to indicate which direction the bird was cruising so that if it came within view of more than one lookout, it wouldn't be counted as another bird. It was common to see the condor cruising above the Sespe. Incidentally, I want to present this report for the Archives.\* The best observation though that I enjoyed, was during the time I was assigned a few years later to the Los Padres Forest when they were using an airplane to replace two lookouts for fire detection. And the pilot frequently persuaded me to go along with him. It was boring for him day after day, and four eyes are better than two, and we would frequently meet condor cruising around. The pilot would sort of feather the plane up behind the bird where we could really get a good view of it, and of course the condor was not evasive. Airplanes were something new to them, so they just sort of ignored us. And we could see them too, some mornings perched on limbs of snags while they were preening in the sun.

It was our estimate in 1939 and '40 that there were about fifty North American condor in existence. Then looking into the future, in 1974 I noticed that the estimate was still about fifty, which indicates to me it isn't a diminishing species, but it's certainly a rare and endangered species. We found on the Los Padres that they were vulnerable to thoughtless hunters and egg collectors. I don't recall the name for that hobby, but there is a group that specialize in collecting eggs. And the Sespe area was given special attention because of oil exploration. It was the intention to drill for oil, and the head

of the Sespe was a nesting area for condor. Later on (in which I had no part) there was a condor refuge established in this area which sometimes makes me wonder now, in our energy crisis, which is more important: the self-sustaining with petroleum or to protect a rare species of bird.

The cooperators on the biological studies of game animals should include the University of California, both Berkeley and Davis, and Stanford University as participants.

\* \* \* \* \*

The 1940 report that I referred to and presented for the Archives is mostly statistical. However, the figures do include national forest lands in western Nevada which at that time was the Mono National Forest. The supervisor's office was at Minden. The forest supervisor was William M. Maule, who at the time of his retirement prepared a geographic and economic history of the Carson, Walker, and Mono Basins in Nevada and California dated June 30, 1938, a copy of which is in the Library here at the University. Upon his retirement, Kelly Traugh, who I mentioned previously in our range survey crew, became forest supervisor and they moved the headquarters for the Alpine district from Markleeville to Minden.

About the same time, the Toiyabe Forest, for a few years, was consolidated with the Nevada Forest and the supervisor, Chet Olsen, was at Ely instead of Austin for both the Toiyabe and Nevada Forests.

In the late '30s they separated again, and the supervisor of the Toiyabe, Andrew McQueen, also moved to Reno for the headquarters.

---

\*Copy in UNR Library

There was some rivalry between the two offices—the Toiyabe being in Region Four under the regional forester at Ogden, and the Mono Forest being in Region Five under the regional forester at San Francisco. I suspect that there was considerable time wasted between the two in administration and also caused confusion to the public. I'll discuss this somewhat later when the two forests were consolidated.

During this competition, the regional forester and my boss (Cronemiller) sent me to western Nevada to make a study of the fish and game situation—not only the portion within the national forest boundary, but also it pertained to lands outside the forest. Previously I mentioned the California Fish and Game not being adequately staffed by technicians. This was certainly also the case in Nevada. If I recall correctly, in 1938 there was only one full time field man employed by the Nevada Fish and Game Department. And he was a warden spending most of his time on law enforcement. There were hatcheries, some run by the state and others by the various counties. Today there are still remnants in Reno, in two different locations, of county fish hatcheries that were in operation at that time.

From my analysis of big game populations, I determined that the low point in numbers of deer and antelope occurred about 1900. There wasn't too much to go on in the history of big game in the exploration era. Fremont left very meager notes in 1843, '44, and '45, mostly just a comment that game was scarce. I did find a record that there were antelope in Smith and Mason Valleys in the 1860s. Then by 1938, the big game were on an upward trend in population. There was an antelope refuge created in northern Washoe County through (partially) a grant by the Audubon Society and the old Biological Survey of the federal government to protect remnants

of the antelope herds. They have increased substantially since, both in northern Washoe and northeastern California in Lassen and Modoc counties.

I found that the game population had reached the low point up 'til about 1900, partially because the deer and antelope were hunted for a commercial purpose in connection with the settlement and construction of the railroad. They had hunters to provide food for the crews on the projects.

Roy Saarni was appointed as a wildlife technician the summer of 1940, just following his graduation from the University of California in forestry. We assigned him to the Inyo National Forest to work on big game ranges. The following February in 1941, I joined Roy in making deer census on winter range using sample plots. We would, in the mornings, climb to where the deep snow covered the mountains, and then come down ridges through the deer herds which enabled us to get an accurate count on the census areas. Deer have a tendency to go uphill, so by us coming downhill they didn't evade us going ahead of us. The actual number of deer on the sample areas was not as significant as was the trend—based on previous counts—and we found that the population was still on the upward trend.

That month I was on the Inyo on the deer census, I worked some with supervisor Roy Booth, who'd been a colleague and friend previously. Roy was a sort of a silent, mountain type individual. And he had me give talks for him to schools and women's clubs that winter, mostly the subject of conservation, but some in regard to our game census. One school that I remember especially was a private boys' school at Desert Springs, an institution to provide wealthy, eastern boys with a place to come and learn about ranching. Roy and I went over and put on a program there one evening.

## “DOC” SHANTZ

At that time H. L. Shantz, who we affectionately called “Doc,” was chief of wildlife management in the Washington office. He came to California, and I had the pleasure of going on several long field trips with [him]. And he was one of the most interesting and stimulating individuals that I ever had the pleasure of knowing. On some of our long trips he sort of followed a routine. First in the morning we’d talk about Forest Service business, and if it was a somewhat of a monotonous drive, then he would tell of some of his previous experiences, one of which was president of the University of Arizona. And he’d tell of the trials and tribulations of being a president of an educational institution—and they are quite similar with that of universities today. Lack of sufficient funds and politics were as realistic then as they are now. Then he seemed to like to read aloud as we drove along. He’d read the weekly news magazines to me while I did all the driving. And on one trip he read the entire volume of VanLoon’s *Story of Mankind*. It helped make the time go more rapidly, especially for the driver. Then we’d discuss the *Atlas of American Agriculture* (a copy of which is provided for the Archives) which he and Rafial Zon prepared, I believe in 1924. I’d point out some discrepancies in the way they had mapped the vegetation. Remember especially in that the juniper-pinyon pine, *Pinus monophylla*, range extended north from Reno into Lassen and Modoc counties, even up into Oregon. There is no pinyon pine native to Modoc County. In fact, I have not found pinyon pine north of the Truckee River. There has been reports of small groves in the vicinity of Sierra Valley, but have never observed them. No doubt the northern extent was greater as of 1924, but numerous range fires removed the last remnants. Pinyon

pine, as well as juniper, is extremely sensitive to fire. In fact, I have never found it to map north of the Humboldt River. Of course, there is pinyon east of the Humboldt watershed along the Utah-Nevada line extending up into Idaho. I’ll mention vegetation types in more detail later.

Then Dr. Shantz would tell me about similar mapping of vegetative types in Africa, and then about his trip to Russia when he was with the Bureau of Plant Industry trying to help the Russians in cultivation of crops.

One of our trips was interrupted on our way back to San Francisco along the Redwood Highway or California State Highway One. The Russian River was even exceeding flood stage. And we were stranded at Healdsburg, California for three days. The flood control projects that I mentioned previously had not yet been constructed, so the highway was closed. The first night we were in Healdsburg we went to a western movie to kill time. The next night, Doc wanted to go back to see the same show again. I reluctantly went. I would have rather sat around in the hotel and listened to Doc Shantz’s stories and experiences. Then the third night we were still marooned, and he wanted to go to see the same movie again. He had an insatiable desire to see western movies. Apparently, he liked the scenery of the West. This time I refused. Oh, he offered to pay my way if I’d go, but twice was too much. The third time was out as far as I was concerned.

The next day we had to leave the car at Healdsburg, and then took the train to San Francisco. When we arrived at my headquarters, he wanted me to go that night to the opera with him. But I also declined, as I’d never been to an opera I was afraid I might not stay awake.

There was one other occasion that I had to be uncooperative. He wanted to transfer me to Atlanta, Georgia to be the head of wildlife



management of Region Eight, which includes the southern gulf states and south Atlantic states. The only reason I could find that there was talk about a transfer was, a man in a similar capacity in Atlanta wanted to come to California. And if that was the only reason, I couldn't see why I should move, because I liked it in California too.

Then in my stimulating experiences with Dr. Shantz, there are a couple of more items to add. When I was district ranger on the Devil's Garden district which is a high, lava plateau with very thin soil, I noticed frequent mounds of fine earth about twenty feet in diameter and two or three feet higher than the rest of the surrounding land. I often wondered what caused this. I even dug into them sometimes to see if they might be Indian burial grounds. I never found anything but fine soil. Dr. Shantz explained these mounds so simply and logically, I'm amazed that others hadn't figured it out. I've never seen it in literature. He explained that in the flat lava mantle there were occasional circular depressions. And as the lava eroded (wore to soil), the wind blew this into the low spots and then vegetation'd grow on it; and this would intercept more wind laden soil and gradually build up the mounds.

He also stimulated me to think of plants as indicators of conditions in that particular part of the earth. Before range surveys we used some plants to indicate succession, such as overgrazed bunch grass, or meadow lands would be invaded by annual grass and weeds. But there's far more plants to read as indication of certain conditions. As an illustration he explained to me that the cattails, *Typha latifolia*, indicates the water is fresh and not brackish, although it grows near the high-tide land along the ocean. Later on, I will discuss how I have used other plants as indicators for conditions, even of military significance.

On my trips with Dr. Shantz, we went to Stanford University to attend the American Academy of Science's National Convention. And he introduced me to Willis Linn Jepson, the botanist-author of the *Manual of the Flowering Plants of California*. He was a rather big, abrupt, gruff man, but apparently had an exceptional memory because he mentioned that he had heard of me previously. I'm not known among botanists and wondered why or how. And he said that he reads the California region news sheet, and I'd been mentioned in it several times. Anyway, his book is my bible as far as plant identification is concerned, so he was rather holy to me.

## TROUT

During the summer of '39, Ed Smith (who I mentioned previously supervised the El Dorado National Forest) asked me to take a pack trip into Desolation Valley with him to look at the possibility of increasing the flow of water during the summer months in the north fork of American River. This is the drainage that Highway 50 parallels. Irrigation and power diversions caused the flow to drop to about two second-feet during the dry summer. This was not enough to sustain trout life. So we looked at the lakes in Desolation Valley as a prospect for storage of melting snow water to release during the summer months. I found that by building low check dams on about fifteen of the lakes, we could store enough water to bring the flow up to about seven second-feet; that was sufficient for trout. We were on a close margin because we couldn't build dams too high in the Desolation Valley primitive area. We certainly didn't want to flood any of the riparian trees around the margin of the lake. And also we had to be careful not to encroach upon the water rights of the power company and the irrigationists.



After the field survey, I went to Placerville later that fall and wrote the report. There were seventeen lakes— mostly tributary to the American River, but two or three tributary to Lake Tahoe—that had prospects of building economical, small rubble-masonry dams. There were four or five that were marginal that I didn't feel justified the expense. This report was used by the Mt. Ralston Sportsmen's Club at Sacramento for argument in the passage of the Dingle-Johnson Act. This is comparable to the Pittman-Robertson Act which provided for a federal tax on firearms and ammunition, for the management and improvement of habitat of game animals. They wanted a comparable act taxing fishing tackle and bait and so forth, for improvement of fish habitat and propagation. After passage of the Dingle-Johnson Act, all of the proposed dams were constructed in cooperation with the state of California (the Fish and Game Department), and even those that I considered marginal were built. As a result, the minimum flow now in the north fork of the American River is about ten second-feet, so is a fair trout stream.

I'd like to elaborate on the material to support the passage of the Dingle-Johnson Act. It was necessary to show that trout streams were of national significance. And federal funds should go towards the propagation and improvement of habitat as well as state money. We used, as an argument for this, the fact that there were sixteen hundred summer home permittees on national forest land, both at Lake Tahoe and along the American River. I tabulated the addresses of all of these people, and they came from various places from throughout the United States—many even from the eastern states. So the fishery was important nationally, rather than just for local anglers. The Mt. Ralston club was quite aggressive and insisted on improving the fishery beyond the capability of the California

Fish and Game Department. So they used my report to support their contention.

*Did you make some speeches and give testimony and all this kind of thing? It's usually involved in supporting legislation.*

No, I had to sort of just provide the information to others, because then I might be violating the Hatch Act or getting into the category of a lobbyist. We can inform others, but we can't influence Congress.

*But you did influence the Mt. Ralston Club.*

I think so.

A copy of the report I prepared for the storage of water in the Desolation Valley Primitive Area has been made available to the Archives.

Early in the summer of '39, Dr. Paul R. Needham, who wrote the little book Trout Stream (copy of which I present to the Archives with an autograph), I consider one of the leading authorities on trout of North America. I had previously worked with him at Stanford University. He was with the U. S. Bureau of Fisheries and it was in his laboratory on the campus that I made the age, rate of growth, spawning study for five hundred trout taken by creel census from Squaw Creek. Well, we got our heads together on another problem, and that was southern California streams on the Los Padres, Angeles, Cleveland National Forests were not providing much trout fishery for the populace area. There were two limitations; one, the water in the streams was too warm, and the other was if rainbow were planted they had a tendency to migrate to the ocean—then they would become steelhead. Then the streams would not be suitable for the steelhead migration back up the streams to their point of origin.

We heard of a species of trout in Baja California that lived in warm water and was nonmigratory. So we arranged to make an expedition down about eighty miles south of Ensenada, with the consent of the Mexican government to bring back some planting stock of Nelson trout, *Salmo nelsoni*. He had his assistant, Dr. Osgood Smith, too, included in the party, and actually I went along with ranger Red Stevenson of the Cleveland Forest, sorta as helpers in case they got in trouble. Neither Dr. Needham nor Smith had much experience or resourcefulness in the wild country.

A short distance out of San Telmo, on our way to the Meling ranch, Needham and Smith were ahead of us, and we were trying to follow to keep up. It was a very poor, just two-rutted road, and Red and I felt that they were drivin' too fast, but we couldn't catch 'em to slow 'em down. So, we were betting which would happen—whether they'd blow out a tire or hit a high center. I was betting on the tire failure and unfortunately lost. They hit a rock and caved the crankcase up so that the connecting rods hit it. We caught 'em by that time and were appraising the damage. The two doctors were anxious to continue on to the Meling ranch, and I took upon myself to give a command that we were gonna stop right there and not go any farther. In another mile, the rods would have knocked a hole in the crankcase, and we'd have lost all our oil. It was about eighty miles from the nearest garage. So we pulled off to the side of the road, made camp. We took off the crankcase. By that time it was about dark. The next morning we remembered we'd passed an old mine back down the road several miles. We took the crankcase in the other pickup back to the mine, found an old forge, heated up the bottom of the case and beat it back into shape. Then we proceeded to put the pan back

on. It was a Ford V8. We'd brought along a good supply of tools, but certainly no parts. But we improvised. We used bacon rinds for gaskets and nails for cotter keys, and were ready to continue on. This time we led the way. Although we'd never been to the Meling ranch, we at least knew that we wouldn't go too fast.

At the Meling ranch (known also as Rancho San Jose), we acquired pack and saddle stock, so that we could pack into an unnamed tributary to Arroyo Telmo. We had five hundred pounds of ice with us to keep the fish cool, if we were successful. Of course, it came in handy for tequila cocktails in the evening as well. We seined from the stream about five hundred Nelson trout, ranging in size from about three inches up to six inches in size, and packed them out to the car. Didn't need much aeration with the ten gallon milk cans on the mules, but we did put a little ice in to keep the water cool. And while we had live trout we were in a hurry. However, en route I saw a rattlesnake, got off my horse and killed it. Didn't think anything of it, although it was an unusual looking rattler—bronze in color. Later on, I talked to the people in the Museum of Vertebrate Zoology at the University of California in Berkeley and found that it was an extremely rare species, and I should have brought the specimen in. But it didn't mean much to me and we didn't really have the time.

We drove continuously then 'til we reached the customs gate at San Diego. Arrived there about midnight, and the immigration officer was so interested in looking down into the fish cans with the flashlight to see the fish, that they overlooked seeing the bottles of tequila arranged in the space between the cans. I don't believe we actually violated the law bringing back an excess amount, but it was never declared. After returning to cool San Francisco, I wondered why we'd brought tequila home.

Well, Doc Needham and Smith continued on to the Bonneville federal hatchery as a place to rear Nelson trout for stocking of southern California streams. Unfortunately, a flood a year or so later wiped out the hatchery, and all the Nelson trout went to the ocean.

### **ON THE FOREST**

That same summer in the regional office at San Francisco, when not in the field, I was available for dispatch to fires that became project size. The first one was to a fire on the Shasta Forest on the McCloud River. It was somewhat routine. However, one incident I remember was I had a division on top of a ridge and ordered thirty gallons of water to be dropped. Dropping cargo by planes, at that time, was still in the experimental stage, although I had mentioned the year before similar cargo dropping on the Trinity fire. The fire boss was rather sarcastic in asking of my request for thirty gallons of water. He said, "What're ya trying to do—put the fire out with water?" Oh, I replied that we were putting the fire out with men, but the men had to have water to drink. They delivered it to our crew several hours later. I think we received twenty-five gallons out of the thirty-five. Two of the five-gallon cans broke when they landed.

The next fire, after returning to the regional office, was again on the Shasta Forest in the Goose Nest area. This is northwest of Mt. Shasta. Bill Peterson was the ranger and fire boss. Bill later became supervisor of the Plumas National Forest with the headquarters at Quincy until he retired about five years ago.

We were out locating line at night with bulldozers following us. I remember we went through one rancher's fence three times. We saw a red glow on the top of the mountain, and we just couldn't realize that the fire was

that big. And it wasn't. We found out that it was an airplane beacon, and there wasn't any need to include that within the fire line. About the time the fire reached the mop-up stage, another big fire broke out, called the Deer Creek fire, west of Mt. Shasta city.

So Bill went to this fire and left me in charge of the one at the Goose Nest. In about two days, my fire was out or very near to it, so I relieved myself and went to town to get ready to go on the Deer Creek fire. But having worked in this pumice for three or four days, the fine powder had sifted through my boots, even though I had good logger's boots on, and walking then took most of the hide off of my toes. So I could hardly walk when I reported in for the Deer Creek fire—they made me a coordinator of saddle and pack animal stock for the night shift. Quite a title, but it only meant moving the stock during the night to the next fire camp as the fire progressed.

Fire camps are rather eerie at night lighted by Coleman lanterns, cooks rattling pots and pans getting ready to feed the crew for a daylight breakfast, men rolled in blankets trying to sleep around the margin of the fire camp, a tool sharpener with a gasoline engine running a grindstone getting the shovels and axes ready. Anyway, I had to move two mules from this camp around to the next camp in a trailer. The first mule loaded easy, but I couldn't get the second mule to walk in. I tried everything; I coaxed, I led, I tried to push, but the mule balked. Finally in desperation, I picked up a rock and threw it at the mule. I missed it, and the rock went through the glass—rear glass—in the pickup truck. It so startled the mule, he walked right in. I closed the tailgate and took off for the next camp. However, I don't recommend that as the usual procedure for loading mules.

Sometimes it's rather amazing how many places a person can go during the summer.

Another trip that summer was in the Mt. Whitney portion of the Sierra Nevada. The ranger and Fred Douthitt, who I previously mentioned, and I rode the range allotments of the Tunnel District (this is all back country). We looked at Monache Meadow which is divided by a fence, part of which is on the Sequoia sort of tied in with where I'd been several years before. I was principally looking for sign of mountain sheep and trying to determine the extent of their summer range, beginning at Kern Peak (which is east of the main Kern River and west of the little Kern) — from there to Mr. Whitney. During the week in this locality, we enjoyed catching Golden trout. Although they were small and required a very fine, delicate leader, we caught enough for a good trout feed each evening.

Well, the ranger and my associate, Douthitt, wouldn't go anyplace they couldn't travel by horse, so I took off from Army Pass at the head of the Cottonwood Creek afoot with a thirty-five pound pack, trying to follow the crest of the Sierra from there to the top of Mt. Whitney. I went alone, and I shouldn't've. On that kind of a trip there should be at least two or maybe more in the party. Couldn't ride because it was too rough. I'd get up to around 11,000 or 12,000 feet during the day, and then have to drop down to around 9,000 feet in the evening where there was wood to make camp. I carried mostly dehydrated food and depended on catching trout, both in the Inyo Forest and the Sequoia National Forest for the meat supply.

Late one afternoon, about the time I had to leave the top of the crest, I was tempted to go down the east side. It looked like it was easier traveling because the west side would require crossing three glaciers. But I tried to reason with myself that normally the west slope of the divide is more gentle than the east slope. It's a good thing I talked myself

out of going down the east slope, because I'd have been in talus that could've slid, and gone over a precipice with a drop of at least two thousand feet.

So I took the route across the glaciers at Upper Crabtree Lake. The first one I crossed without incident. As I got out in the middle of the second one, I began to slide and that was almost a sheer drop into the lake. I just caught my elbow in a depression to stop and enough then to crawl across it. And I decided the third one was too much to attempt so I dropped clear down to the level of the lake where the wave action had carved out a tunnel in the glacial ice along the shoreline, and I crawled through the tunnel, dragging my pack— tied my pack onto my foot—and drug it behind me. Got through. I went down farther below Middle Crabtree Lake and made camp.

I wasn't gonna cross this glacier to get back up to the crest the next day so I followed the main trail up to Whitney Pass, and then on to the top of Mt. Whitney. I saw numerous sheep tracks and quite unlimited mountain sheep summer range, but never actually saw any of the animals. However, the next winter I went back to the Inyo Forest and participated in a big game census on the winter range. Saw several herds of the Rocky Mountain big horn. There were estimated to be about two hundred of this remnant species in the Sierra Nevada. Also counted numerous Inyo mule deer. This is a race somewhat smaller than the Rocky Mountain mule deer. This race [of Rocky Mountain big horn sheep] is *Ovis canadensis*, variety *sierrae*. At this point it might be worthwhile to distinguish this race from the Nelson sheep that inhabits part of Nevada. Both are in the same genera, Rocky Mountain big horn is *canadensis*, but the *nelsoni* has a little different characteristic. The principal difference that I could detect was that the horns on the Nelson sheep at the

base, at the skull is a triangular outline, while the Sierra sheep, the base of the horn is more circular or slightly elliptical.

We were successful in finding a number of the sheep on the winter range. And I recall one incident where both the sheep and deer were going up a steep chimney ahead of me, through a sort of a talus footing, and the deer couldn't go much higher than I could, but the sheep went right out over the top as if there was no barrier.

I had a camera recently fitted with a telephoto lens, and had an excellent opportunity to take pictures of the sheep. But when the camera shop installed the lens, they changed the setting from instantaneous to "bulb," and I didn't know it, and as a result, the film was all blank.

Saw some tule elk which had been transplanted from Button Willow to Yosemite National Park before the Park Service realized that there weren't to be exotics in a national park. They trapped 'em; had to do something with 'em. There was an overpopulation at Button Willow, so they were taken around to Owens Valley and released. It isn't really elk country, but they have thrived and to this day are somewhat of an annoyance to the livestock interests.

One of the reasons we were interested in the mountain sheep habitat, both summer and winter range, was because of public pressure to establish a sheep refuge; our objection was to just drawing a designated area on a map does not serve the purpose. In fact, I thought it would be detrimental. It would, give poachers a guide as to where to go and hunt them. After all, the sheep were protected by law year long, completely, so why make them conspicuous by designating a refuge.

I would like to mention the delightful trip that I made in 1940 to the Marble Mountain Primitive Area. Everett Jensen was the district

ranger for this portion on the Klamath National Forest, lying south of the Klamath River, bisected by the Salmon. Everett and I started in college as freshmen in 1927 and played as guards on the college basketball team that year, until we started dropping out of school to go to work. It's very hard for an athlete to make a team and not attend full time.

The Marble Mountains are a rather unique island east of the coastal influence, yet west of the yellow pine-sage zone. There are numerous lakes that were so well stocked with trout that they had big heads and small bodies [which] made quite a sport of catchin' them, to avoid the ones you didn't want from takin' the hook. There was a weeping spruce that I'd never seen, growing on the margins of the English Lake. That's a *Picea breweriana*. One of the most beautiful spruce I've ever seen. Also, in this area is Sadler oak or *Quercus sadleriana*. There are fourteen or fifteen species of oak in California, and this is the thirteenth that I've seen. So I have one to go. The only one that I haven't seen, according to Jepson's manual, is the Island oak, *Quercus tomentella*. That only occurs on the islands off the southern coast of California. I hope someday to visit these islands, principally to see the fourteenth oak of California.

Incidentally, I've observed all of the native oak in Nevada, four or five species, depending upon the botanist. And looked for oak in Idaho and Alaska, and never found any. Then discovered that there are no oak native to either Idaho or Alaska.

During our trip in the Marble Mountains, we had a little radio and listened to the program of the Republican National Convention nominating Wendell Willkie as their candidate for president.

Jensen and I discussed a rather new venture in the management of national



forest resources, and that was multiple use” management. He’d given considerably more thought to it than I had, but both of our thinking was about fifteen years ahead of the actual multiple use management. We had long discussions, some of which were arguments. I never could quite agree that the administrative units should be set up by sub-regions according to resources instead of the use and distribution of people. Later, Jensen went to the regional office in San Francisco to head that section in the recreation lands division. More’ll be said about multiple use as time goes on.

#### FOREST SERVICE MANUALS

There was another event in the fall of 1939. The chief’s office in Washington decided it was time to rewrite the Forest Service manual regulations and instructions pertaining to range management and wildlife management. Previously, the two were sort of grouped together under “grazing.” This was quite an undertaking, and it was decided that all of the assistant regional foresters in charge of range and wildlife in the nation (with the exception of Alaska), the head of range management, Walt Dutton, and the head of wildlife management, Doc Shantz in the Washington office, arranged for gathering in San Francisco to rewrite the manual for those two subjects. As Region Five of the California region was sort of host, I was assigned the task of making the arrangements, providing clerical help, providing conference rooms and accommodations for our visitors. In my capacity, I was certainly beneath the level of writing regulations, but it was a very good experience for me to see how the thinking of the higher-ups went into the preparation of the various regulations.

I’d like to speak at this point a little bit about the history of Forest Service regulations. The first was a small handbook with about a hundred pages, published in 1908, a copy of which I provided the Archives. The next was a larger manual, with about six hundred and sixty pages, published originally (of course there were many supplements) following in 1926. I present this also to the Archives. I doubt that the U.S. government would object, although they had given instructions for all copies to be destroyed. If the government ever wants their copy back, maybe it can be arranged. The Forest Service manuals that are provided to the Archives were classified either “discard” or “to be destroyed.” Being a book lover, I never could destroy anything between hard covers.

We used this canvas-covered manual of regulation and instructions as a text in the course at college titled, Alaska), the head of range management, Walt Dutton, and the head of wildlife management, Doc Shantz in the Washington office, arranged for gathering in San Francisco to rewrite the manual for those two subjects. As Region Five of the California region was sort of host, I was assigned the task of making the arrangements, providing clerical help, providing conference rooms and accommodations for our visitors. In my capacity, I was certainly beneath the level of writing regulations, but it was a very good experience for me to see how the thinking of the higher-ups went into the preparation of the various regulations.

I’d like to speak at this point a little bit about the history of Forest Service regulations. The first was a small handbook with about a hundred pages, published in 1908, a copy of which I provided the Archives. The next was a larger manual, with about six hundred and sixty pages, published originally (of course there were many supplements) following in



1926. I present this also to the Archives. I doubt that the U.S. government would object, although they had given instructions for all copies to be destroyed. If the government ever wants their copy back, maybe it can be arranged. The Forest Service manuals that are provided to the Archives were classified either “discard” or “to be destroyed.” Being a book lover, I never could destroy anything between hard covers.

We used this canvas-covered manual of regulation and instructions as a text in the course at college titled, “History, Policy, and Law.” I’m sure somewhere on the campus there is another copy or two. But there was some good philosophy in this. It was well written. It carried out the directive of Secretary of Agriculture Wilson, that the national forest should be managed for the greatest good to the greatest number in the long run. Some of the adversaries to the Forest Service felt that the regulations and instructions were somewhat socialistic. It favored homesteaders, and miners, grazing permittees, but perhaps it was just a number of years ahead of time.

Then the next manual that I mentioned, when I attended writing sessions, grew into so many volumes that they’ll fill a good-sized bookcase. So from 1908 to ’74, it’s expanded from a hundred pages—plus I forgot to mention a use book” that was also consisted of about a hundred pages, that was a guide in timber and grazing uses up until 1926.

There should be some explanation of why the manuals have increased in such great magnitude. Multiple acts of Congress pertaining to the Department of Agriculture and the Forest Service, each require more regulations and instructions. And today there’re about eighty disciplines in the Forest Service as professionals. When I started in 1930, it was mostly foresters, a few engineers

in the regional office, and a few accountants. Now the disciplines run from A to Z, agrostology to zoologists. This is partly due to Environmental Protection Policy and Act. Each require more instructions in connection with the regulations. Also, research has determined many facets of forest and range management, which provided basis for more instructions. And of course, the public has demanded more intensive management.

In regard to our conference to write the range and wildlife sections of the manual. This was during the Roosevelt administration. Secretary of Agriculture Henry [A.] Wallace had a philosophy that fish and game or wildlife on federal lands belonged to the United States instead of the various sovereign states. This caused a great amount of discussion and deliberation in trying to write regulations for animals whose ownership was dubious. Not being a states-righter, I still hope that fish and game and water will continue to be recognized as state property rather than that of the federal government. There are some possible encroachments. For example, the Migratory Bird Act and Treaty almost connotes that the waterfowl belong to or are controlled by the federal government, rather than the individual states that they may cross in flight. Also, the wildlife in National Parks might be construed as federal property because state hunting laws are not applicable. I say hunting, because in some cases state fishing licenses are required in National Parks because the state does some of the stocking—not exotics, I hope.

Following our writing of the two sections of the manual, a group of assistant regional foresters, especially from the east, took a tour of the coast of California. We were driving down Highway One from Carmel to Cambria over the highway that, as I mentioned previously, hadn’t been constructed yet

when we were making range surveys on the Monterey division on the Los Padres Forest. And I remember especially on this trip we all saw the first sea otter of our experience. Near the confluence of Anderson Creek with the ocean, offshore several hundred yards, we could see the sea otters' heads bobbing around in the kelp beds. And at that time the sea otter was so rare that it was almost a secret that they were in this particular area. Thankfully, by 1974, the numbers have increased from Pismo Beach north almost to the Aleutians, to the extent that they're no longer a diminishing or vanishing species.

During the two years in wildlife management, I had the opportunity to visit every locality in California, both mountains and valleys, except Death Valley. On my previous mentioned trip to Mt. Whitney, I tried to see if I could find Death valley which is supposed to be visible from Mt. Whitney. And it was impossible, thinkin' perhaps the haze interfered. So that winter on a vacation, I went to Death Valley and the lowest point (two hundred and fifty some feet below sea level at Bad Water) to see then if I could see Mt. Whitney—and am convinced that the Panamint Mountain Range intercepts and it's impossible to see the highest place from the lowest place in the contiguous forty-eight states.



---

## BACK TO THE MODOC, 1941

In March of 1941, Joe Elliott came to San Francisco. He had been transferred from the Sequoia National Forest to the Modoc National Forest, because of a great antagonism that had developed between the stockmen and the administration of the Modoc. About a hundred and fifty stockmen signed a petition to abolish the national forest. This was caused principally by a program to reduce the number of livestock under permit on the Modoc. It was determined, by the range surveys that were made (that I mentioned previously), that the Modoc was severely overstocked. And the former administration really were trying to move too fast to bring numbers down to capacity. So the supervisor was transferred to research, and Joe went to take his place. And during the critical time, the regional forester gave him quite a free hand in the selection of personnel for the forest.

Well, Joe and I went out to dinner during his visit, and we reminisced about the old days on the Sequoia and almost reached the stage of being sentimental. And he asked me if I ever had a chance, if I'd work for him again; and of course, I told him I'd work for

him anyplace, anytime. In the next week I was transferred to the Modoc.

This time Mr. Cronemiller, my superior in the regional office, wasn't too receptive to the idea, but it had been worked out between Joe and the regional forester. I enjoyed my work in the regional office, but at this time there were quite strong indications that we were gonna be at war, and judging by what was happening in Europe, I thought it might be better in the national interests to get back to range management rather than wildlife management.

On the tenth of April when I arrived at Alturas, as a coincidence, a Senate investigator arrived. His name was George Storck and I believe as a character, justified some description. He was a gruff, big, elderly man who had previously been with the Secret Service. In fact, he was one of those that uncovered the Teapot Dome scandal. And the Senate committee had him as their investigator, partly because there was friction between Mr. Storck and J. Edgar Hoover of the Federal Bureau of Investigation.

He was very gruff, demanding, arbitrary, but in a way accepted me to be, his errand boy—to take care of the typing of testimony, keeping him supplied with materials that were needed, and to the extent that I would accept being his drinking partner. He left it up to me (which was an embarrassment) to notify witnesses who had signed the petition to abolish the forest, for me to get them to come in to give their testimony. Some of them didn't have phones, so I would drive a good part of the night to some isolated ranch to tell the individual that he should appear at eight o'clock the next morning to meet with Mr. Storck. Some mornings [laughs] at eight o'clock, Mr. Storck was not receptive, and said, "I'm not gonna see anybody today." And left it up to me then to tell them, "I'm sorry Mr. Storck isn't available today, and you just as well go home." [Laughs.]

The investigation lasted about six weeks which encroached upon my time when I was trying to start on a new job as range staff man on the Modoc. The Grazing Service took delight in our dilemma, and of course, baited the petition signers to give us trouble. They also tried to prolong the investigation, because if the national forest was abolished, it would revert to public domain and come under the administration of the Grazing Service in the Department of Interior. At that time, which was only about five or six years following passage of the Taylor Act, those in the Grazing Service were political appointments, very few of which had any technical background as land managers.

Following the investigation, there was to be a Senate hearing in Reno. And by that time we were beginning to soothe the stockmen. They were beginning to realize that the Forest Service might not be so bad after all. Some of the reductions that had been announced that were not supported by regulation were

restored. Joe and I entered into a range management program, even including the construction of cow trails through some of the lava beds to improve distribution. We were starting to dig stock-watering reservoirs, development of springs, construction of fences, and instead of reducing numbers (in some cases) adjusting the season of use—and at times, shifting stock from one allotment to another that was not so heavily used.

By the time the hearing was held, the stockmen appeared before Senator McCarran and said that they were withdrawing their petition. They were questioned, and one hardheaded stockman says, "Well, it's my petition. I can do what I want to with it." Even though there's about fifty names on it. [Laughs.] The result of the hearing has always to this day been rather nebulous. Anyway, the Modoc National Forest still exists.

Following Storck's investigation, he insisted that I take him to San Francisco, as he wanted to investigate the checkerboard lands of the Southern Pacific Railroad Company. I drove him from Alturas to the St. Francis Hotel, San Francisco. I made an appointment for him at one-thirty to see the vice president of Southern Pacific Railroad Company, or I believe that should be Land Company.

He insisted on havin' three martinis (maybe double ones) before lunch, and I was becoming alarmed about meeting the appointment time—and his condition. So I walked the old man from the St. Francis Hotel down Market Street to the Southern Pacific office near the Ferry Building. He grumbled all the way, but at least I think he had a clear mind in time for his appointment [chuckles].

Then he wanted me to go to Hollywood with him to investigate the motion picture industry using public lands for their movies. This sounded like a good opportunity, but I wanted to get to my assignment on the

Modoc. So, I called Joe Elliott on the phone and asked him to send me a telegram saying it was urgent to come home—which he did.

Within about a month of my return, the regional forester, S. B. Show, decided it was time to write a wildlife management handbook for forest officers. His authors were selected as he was the senior, and then others were A. G. Brenneis, Lassen supervisor, who was formerly on range surveys; F. P. Cronemiller, assistant regional forester (who I have referred to—my former boss); R. L. Deering, assistant regional forester in operations, D. M. Traugh, who was supervisor of the Mono Forest at Reno; and myself as a junior author.

To avoid interruptions, we went to a hideout in a large house in the Santa Ynez Canyon, about twenty-five miles northwest of Santa Barbara. My assignments were to be the librarian, and arrange for the typing, did some writing, and run errands. The material written by each editor then was reviewed by all the rest of the staff, which resulted in long discussions. We ignored the possibility that wildlife would be the property of the United States on federal lands. (Incidentally, I might say that this threat by the Secretary of Agriculture stimulated the State Fish and Game Department to take more interest and get on with the job of fish and game management.) I wanted to have a section in the handbook instructing how to use aerial photographs in the management of wildlife, but this was a relatively new subject, and the staff decided that later there should be a handbook for all resources as to the application of aerial photographs.

The handbook used the C. Hart Merriam zone concept, which I believe justifies enumerating here, the lowest elevation desert being Lower Sonoran (this also applies in Nevada), and the Upper Sonoran, being the

cool desert and the sagebrush types. The transition, which is a timber type, mostly of yellow pine and white fir. Above this is the Canadian life zone, getting into the hemlock and silver tip fir. The Hudsonian, even a higher zone with more dwarf vegetation such as, bristlecone pine and white bark pine, and then at the highest elevation Boreal or Alpine, which is similar to the tundra in the Arctics. The reason these zones were used as to define habitat is that plants and animals grow ordinarily at certain elevations. Then we broke these zones down into vegetative types such as annual grass, perennial grass, meadows, browse, timber types, aspen, and barren. Although animals are mobile or migratory, in general inhabit certain life zones.

Inherent qualities of each wildlife species was explained, some of these are not changed by man so the question of why does an animal behave a certain way is not so important as recognizing that it does naturally, so adjust management accordingly. As an example some rainbow trout in streams tributary to the Pacific migrate to the ocean for several years and then return to fresh water streams as steelhead. The reason they do is obscure. The main point in management is accepting this as a natural characteristic so stock the streams, provide flow and spawning areas to suit behavior.

Mr. Show was a scientist and a brilliant writer (as I mentioned before); an ornithologist, not a professional forester, but more a biologist—graduate from Stanford. He inspired the group to write what I consider a good handbook. There has been no parallel to it before or since. His theory was for us to work constantly under pressure. We'd start about eight in the morning, work with a short lunch and work 'til five. Then he'd allow an hour (what we call "children's hour"), have dinner and go back to work 'til late at night,



seven days a week. And after about the third week, he'd begun to see that we were beginning to crack, and says, "We'll wrap it up and call it done."

Then I returned back to the Modoc to resume or begin the job that I was supposed to do. But it was interrupted frequently that summer, because 1941 was a bad fire year. Early in August, the whole forest from Lassen County northwest almost to the Oregon line and the Tule Lake area was plastered by a dry lightning storm. I might explain dry lightning means when there'd be lightning strikes with hardly any rain. In some cases my first observation was that there was just barely enough rain to hit the ground to keep the stems of cheat grass from burning, but the tops would burn.

Well, there were four big lightning fires north and west of the Lava Beds National Monument. The strikes were on a Sunday afternoon, and by Monday morning there were four fires, each of about 20,000 acres, uncontrolled. There was no way to build firelines in the lava beds, either by hand or with bulldozers. And they were moving from the northwest to the southeast with a fairly intense wind, very low humidity. Joe Elliott was sick. So, I was the fire boss until the fire got so big that they had two fire bosses. Shasta Forest had a fire boss. George James was fire boss on the Modoc, and I was the chief of staff, superior to both of 'em. The honor of such a position is dubious.

So, George and I, in the afternoon, were on a high ridge to the south of the Monument where we could see all four fires moving in our direction. I decided we'd gather it all up and make one big fire out of it, and backfire from the Lava Beds Monument road east twenty-five miles to the railroad track. George agreed, and that was our strategy. So, we started out in the evening, pickups with power flame

throwers touching off the vegetation on the north side of the road. There was an inspector from the regional office on the fire; and he told me my plan was ridiculous—that by morning the fire'd be in Alturas, and that was sixty miles away. But I stuck to it. Then he went out three times during the night and stopped the burning crew, and I'd go back and start 'em up again. An ironic item on this fire was we needed overhead, and to show how things can be snafu or confusing, (I use snafu as a Navy term) we ordered twenty-one overhead from forests in the Sierra. And the dispatcher in San Francisco had arranged for a DC-3 to pick them up and bring 'em to Klamath Falls. Then we would pick them up in a bus and bring 'em to the fire camp. By some confusion, they picked up one man at Sonora, and flew him to Klamath Falls— and I had a Greyhound bus to meet him [laughs]. If it wasn't so serious, it'd have been funny. Anyway, the strategy worked, and by the next noon the fire was under control. About 90,000 acres burned and it had a perimeter of over a hundred miles. We called it the "Barn Top fire," which was the name of one ridge in the middle of the burn. Of course, at that time there was no aerial attack, no dropping of retardants. One plane tried to circle over the fire to see its extent on a scouting basis, but there was so much smoke they could determine very little.

The regional office observer on the Barn Top fire apologized to me the following day after we successfully controlled the fire. And he was embarrassed about his interference. I told him that I had to make a very difficult decision in a short time, and his action didn't help my confidence, but I accepted his apology.

The Board of Fire Review, the following winter, supported the action I had taken for that type of country. If it had been more important watershed with merchantable

timber, neither of which existed in the lava beds, perhaps we could not have sacrificed 10,000 acres more to stop 80,000 acres of fire.

The passenger on the plane and riding the bus from Klamath Falls back to the fire was Wes Spinney, a previous friend, who lived with Kelly Traugh, Floyd Iverson, and myself in a cabin at Quincy during the winter of 1932. People called it the “Boar’s Nest,” and it was appropriately titled. Wes was the best cook of the four of us, so he prepared most of the meals, and we did the chores.

Another incident in connection with the big fire was that in the ’30s and ’40s, there was a Forest Service regulation that provided for stockmen to construct range improvements and then be credited with their expense by reduction of grazing fees in subsequent years. In those days, range improvement funds appropriated by Congress were extremely meager. Well, it happened just before this fire, one stockman built four miles of drift fence under this provision. And the fire destroyed the fence, so paying for it was like paying for a dead horse. But to make things worse, the forage was all consumed, so there was no grazing fees to credit towards the construction of a fence that no longer existed. I never knew how that was resolved, because I soon after that went into the Navy, and often thought there was one compensation of goin’ to war [laughs], not to have to solve such a dilemma in peacetime.

Between fires, Joe Elliott, supervisor, and new rangers wanted to become acquainted with the Modoc Forest, part of which I knew from previous experience. So we went on long rides starting almost daylight and riding ’til after dark. I’m not such an ardent horseman that I enjoy this as a usual practice. Although, I did have a good horse—nice looking sorrel gelding—had endurance probably a bit more than I had, but he was a little rough riding

downhill. I’ll mention this horse later on another incident.

Joe was really making progress in public relations, winning back the respect of the people, both merchants and stockmen in Modoc County. That fall at the county fair in Cedarville, Joe wanted to have an exhibit put on by the Forest Service and decided that he wanted to show off live beaver. He’d heard about my previous beaver trapping experience, so he left it up to me, with the permit of California Fish and Game Department. Went out and caught a large adult and a smaller one—about half grown—and built a low pen at the fair. We obtained from the regional office a huge backdrop painting of aspen with a stream flowing through it, and tried to continue the scene on within the pen where the beaver were. We buried a stock watering trough as a pond and built my conception of a beaver dam in the tank, and then we released the beavers. The first thing they did was to tear my dam to pieces. And then Joe thought the pen oughta be dolled up a little before the morning exhibit, and he wanted the wire pen painted. So, we took the beaver out for the night, painted the wire and the supports green, and the next morning put the beaver back in. Unfortunately, the paint didn’t have any dryer in it, so the next thing the beaver did was to wipe all the green paint off [laughs] onto their fur—so, we had green beaver. The beaver spent the next two days preening themselves trying to get off the green paint. The big beaver was disgusted with the whole thing, and the little beaver stuck its nose in a corner and whimpered. I was never so glad to see a fair end, to get those beaver released out in the woods. [Laughs.] But we had a lot of favorable comments.

Joe arranged with the school board for me to teach a conservation class at the Modoc Union High School the fall semester. This was

the most difficult assignment I ever attempted. The class was the last one of the day, and the students were mostly boys that were problems—some of whom were Indians. They weren't interested in conservation or anything else in school at the time. Some of 'em wanted to smoke, and I prohibited that. Some of 'em wanted to read comic books, and of course, that wasn't our list of literature either. I was glad when that semester ended.

There is a compensation for being assigned to the Modoc Forest; the hunting is excellent. At that time, nonresidents could hunt sage hen or sage grouse in Nevada. And we'd drive from Alturas over to northern Washoe County, and we'd get a limit, which was five, but we were only allowed to have five in possession. So then we'd drive home, go back over the next day and get another legal limit. Deer hunting, of course, was excellent. Although Joe wanted to hunt in northern Washoe County, since we had nonresident hunting licenses, we went over to a reservoir northeast of Cedarville. A fresh snow was about six inches deep, and we hadn't gone far 'til Joe got a big four-point buck. There were no trees to hang it in, so he told me to stay with the deer, and he'd go and get a horse. Well, I knew the nearest horse was about twenty-five miles away, and I didn't want to stay up there on the mountain in snow up to my ankles with a deer. So I said, "Rather than that, let's carry it out."

Well, he says, "I can't help ya. I'm just not strong enough."

Well, I said, "I think I can handle it."

We took out the bones in the legs and tied the skin together—sort of made a sling. He'd help me get up with the deer. I'd walk about two hundred yards and then have to sit down and rest. Fortunately, it was all downhill, and it took about a half a day to reach the end of the road. But that was far superior than stayin' there all day doing nothing. And when we

weighed the deer, it came out at a hundred and forty pounds. He commented that I was stronger than he thought I was.

Duck and goose hunting was excellent. We could go out in the morning before work, get a limit and be back in the office by eight o'clock. It was December seventh that Joe and the fire staff man, George James, Paul Statham, the district ranger, Kelly Traugh, and I went goose hunting. By ten o'clock we all had the limit, got back in the car, turned the radio on, and heard about Pearl Harbor.

---

## WORLD WAR II EXPERIENCES

### PREPARATIONS TO LEAVE

After hearing President Roosevelt's address to Congress on December 8, I drove to San Francisco to see about getting a commission in the Navy. The next week or so, it was impossible for me to find out (with all the confusion) whether the Navy was hiring or firing. But they told me to come back in about a month, and they might have some program that I might be eligible.

I chose the Navy because I didn't care for the Infantry or the Field Artillery, which I've mentioned previously almost attaining a commission. I was a little hesitant about the Army Air Corps because, at that time, it was a branch of the U. S. Army. And through Joe Elliott, I learned that General Arnold was disappointed that I didn't solicit his help to get a commission in the Air Corps. But I was anxious to be assigned to photo interpretation if possible. And at that time, both the Army and the Air Corps had not developed such programs. Later, the Army did.

So almost a month later to the day, in January, I went back to San Francisco from Alturas and decided I'm gonna stay until I obtain a commission in the U. S. Naval Reserve. In my application, I think I mentioned every time that I'd ever looked at an aerial photograph. I also tried to emphasize that I was a good swimmer. Well, it seems the Navy wasn't interested whether I would sink or float [laughs]. Their attitude changed later, as I will mention, in 1944.

There was much red tape to unwind. Course, one of the first things was to take the physical examination, and the Navy had a very high standard. Although my friend physician in Alturas had coached me how to conceal possible physical defects, and I was successful in doing that. I needed a birth certificate, and there'd never been one issued for me. There was a record of my birth in Alamosa, Colorado, October 4, 1908, but the court house had burned down, and the records were destroyed. It was fortunate that my mother and father were both living and

could certify that I had been born. Also, applying for a commission in an intelligence branch of the Navy, it's fortunate that they were both native-born citizens of the United States.

Mr. Cronemiller wrote me a very good recommendation to the Navy for the appointment. And in between the various things I had to do to get a commission, he allowed me to work in his office and assigned me the job of editing and proofreading the wildlife management handbook for forest officers (previously mentioned). It's surprising reading galley, how often either mistakes in fact or in printing occur, so during this time, the handbook was prepared for the press, but because of other priorities during war, it wasn't printed until 1947—a copy of which has been presented for the Archives.

One of the most time consuming details in obtaining a commission, was to obtain a release from the Secretary of Agriculture. The Navy didn't want me if I wasn't immediately available, and the Secretary was reluctant to let me go. So finally, I told the Secretary if he couldn't get a deferment for me for the duration, I wanted an immediate release. And I knew that it was impossible for anyone to be granted a *duration* deferment. If I'd been in the intermountain region, such a release would have been much more difficult, because the regional forester was very reluctant to let their people go into the service. But fortunately, Mr. Show in the California region, had a somewhat different philosophy, and if I wanted to go, he was willing to let me go.

I returned to Alturas and worked on range management and intermittently acting as supervisor, because Joe Elliott had been assigned to Civil Defense work for the nine western states. So, part of the time he was not on the Modoc. During one of these absence periods at Alturas, in the evening some

of us were bowling. It was about the only entertainment there was, except once a week movie for us bachelors. A stranger stopped in, and we asked him to join us and make out a foursome. The next morning, this same man came over to our office and wanted to see the boss. I told him, "Well, I'm the acting boss." Well, he didn't want to see me. So we just passed the time briefly, and he then went to see the district attorney of Modoc County who later told me that he was an agent of the FBI, investigatin' me in regard to receiving a commission in a branch of intelligence. So the FBI has a folder on me, and the CIA would have if there was such an agency at that time. And although I know they have a record of me now, I'm a little impatient with all the commotion about investigations, or these agencies keeping records on our people. If a person has nothing to hide, why should they have reluctance of either investigation or records maintained by the FBI or the CIA?

In the last week of April, I was out at a logging camp sixty miles from Alturas organizing firefighting crews for the summer. Because of the war effort, we were very concerned about finding firefighters in the event of forest fires, and since loggers were producing an essential product, we knew there would be loggers in the woods during the summer. It happened that at that time Joe Elliott went back to the office, and I got a telephone call late in the evening from Joe over the one-wire party line, and he said that there was an important looking envelope from the Navy that had arrived that day and wondered if I wanted him to open it up and see what was in it. And of course, I was just as anxious or more so than he was, so I told him, "Go ahead." He read to me that I had been commissioned as a lieutenant, junior grade, effective April 13, 1942. They commissioned me as a junior grade lieutenant instead at an

ensign because I was too old to be an ensign. I was almost thirty-three years old at the time, and in the same envelope, they told me to wait for orders.

About the first of June, my orders came, and again, Joe was gone and I was acting. So, I finished up Forest Service business in half a day, jumped in my car and drove straight to San Francisco without stop, which meant driving all night. I thought that when you had orders it meant action immediately, and didn't understand that "proceed" orders meant you're allowed five days to report. When I arrived in San Francisco, the first thing I had to do was take another physical examination [chuckles]. I didn't wait for an elevator, ran up three flights of stairs, and when the kindly, old captain in the medical corps took my pulse, it was just about twice normal. I passed everything else. But my doctor told me to go to a hotel and get some rest; come back at about five that night, and he'd take my pulse again. It was still high, but it was down enough to be acceptable.

Then the next step was to buy Navy uniforms, blue and white and khaki. They had to be tailored, and then I had to learn how to wear them. At that time the Navy dress blue required a white shirt with a detachable collar and cuff links. Well, I had never had [laughs] experience with a detachable collar, and it took quite a bit of trial and error in order to look halfway presentable. I wanted the best uniform money could buy. Oh, I had French gold braid on the sleeves, and saw an officer's cap with gold braid on the bill, and asked the salesman how much that cost. Well, he told me, but he says, "Lieutenants don't wear that type of cap. You'll have to wait 'til you're at least a commander." [Laughs.]

Then I proceeded according to orders to Anacostia, D. C. Naval Air Station (this is a small station just across from the capitol), to

report to the photo interpretation training school that was being held in a sort of a wing of a hangar. I was the only lieutenant j. g. as a student. There were about twenty ensigns in attendance. They had been to an indoctrination training school for a month, so they knew much more about the Navy than I did. But I had experience in photo interpretation, perhaps when they were in grammar school. This training session lasted about six weeks, and then we were given orders to report to Hawaii, Pearl Harbor. I might say, the day I left the school, the commanding officer gave me a big "fight talk," and told me how it was up to me since I was senior to the ensigns, to sell photo intelligence to the battleship admirals. He talked straight from the heart.

En route to Washington, D. C., I had never been east of the Mississippi, so the large cities were new to me; and arriving in Washington, D. C., during wartime, was certainly an experience of crowds and turmoil. At the airport I met Admiral Leahy, as a coincidence, and tried to give him a smart military salute. At least I didn't tip my hat to him like I had done in San Francisco to a lady. Everything was rushed. Transportation systems were crowded beyond capacity. It was humid, hot. I wasn't adjusted to this type of climate. I had to walk from my residence near the Supreme Court building, out across the Anacostia River to the training center, because there just wasn't any city transportation. The Navy was still quite strict in uniforms, especially in Washington, D. C., and we had to wear you might say full regalia (blouses in July and August) when it was too hot to have anything more than a t-shirt on.

There was evidence of great patriotism in our national capital. Also concern about attack by the Germans. The capitol building had obvious anti-aircraft guns mounted on



the roof. It was during this time that some of the heaviest losses in shipping between our east coast and England occurred. That was before the anti-submarine attack was developed.

In order to eat a meal, it meant standing in long lines, either at the military mess or in the various civilian restaurants, cafes in the city.

On the fourth of July they had an inspection at the air station, and we had to be in full dress white uniforms with the “choker” collar. Immediately after standing out on concrete hangar for about three hours, at noon several of us took the train and went to New York for a half-a-day leave.

New York was very hospitable to people in the service and had all kinds of entertainment; dances, dinners for Navy personnel, especially officers. Had a room in a hotel, but stayed out all night and took the train back to Washington [chuckles] the next morning.

There was one thing that caused a little confusion and arguments. They seemed to be constantly playing “The Star Spangled Banner” over radio, and it was never clear cut (such as in a restaurant) whether people were to stand or not. Some did and some didn’t. That resulted in argument— a question of patriotism. The Army or Navy prescribed that the national anthem heard over the radio, did not require saluting, bowing of the head, or standing.

Navy tradition, at that time, also required any commissioned officer, arriving for duty in Washington, D.C. call on the President at the White House. So I had to get some calling cards [chuckles] and appear. Of course, “seeing the President” was relaxed, but we did have to leave our card on a tray at the entrance to the White House. Another custom at that time was that each officer had to have a sword belt to get the uniform allowance. So I bought a nice sword belt—never was used—and I

have no idea whatever happened to it [laughs]. Soon after that, that requirement was relaxed.

Washington is noted for a large number of good-looking single girls, and of course, with all the officers there, there was much socializing on time off.

I was interested in the President’s yacht which was tied up alongside our air station. The station had to provide security.

Lloyd Smith, who I mentioned previously, was chief of wildlife management at that time in Washington, and he took me around a tour of the city seeing the Washington monument and Lincoln’s Memorial.

But everybody, nights and weekends, seemed to be in a big hurry, and were anxious to contribute what they could in the war effort.

These orders not only provided for “proceed,” but allowed time for transportation. So I stopped in Iowa to see my mother and father. They didn’t realize really yet, what I was getting into, and when I told ’em my address later would be the U. S. Fleet Post Office in San Francisco, my mother realized that I was goin’ to war. But they both always took things quite rationally.

I then continued on to Reno, saw some of my friends, and went to Alturas to pick up a couple of loose ends. I might mention going back right after December 7th, General Arnold mentioned to an aide that we had his sleeping bag in Alturas, and sometime if there was a plane out that way and it was convenient, just to stop and pick up his sleeping bag because he’d kinda like to get his things together. Well, a casual comment from a general is an instant command, and a B-25 within twelve hours, swooped into Alturas. A very dignified high-ranking officer came to us and demanded the general’s sleeping bag. We gave it to him, and he headed for Washington [laughs].

From Alturas I took a bus to Klamath Falls to then get the train to San Francisco. Travel was rather confusing in those days. But I do remember at Alturas waiting for the bus. I'd like to mention the Flournoy family who were very good friends, both the father, mother, and the five sons— ranchers at Likely and Jess Valley. Incidentally, John is a resident of Reno and one of my close friends. Their brother, Warren, was goin' off to the war the same time I was, so the family saw us both off.

Arrived in San Francisco, I had to wait for first transportation available. And in several days, I went aboard a "banana boat" for Pearl Harbor. I took things quite literally, and one of the requirements of a commission was to take a correspondence course in Navy regulations. So during the five days en route, I did all the lessons.

In San Francisco and Treasure Island, while waiting for ship transportation to Hawaii, I had to take another physical examination; vaccination, shots, and received a dog tag, which was a stainless steel disc with my name, blood type, and a thumb print embossed. This may seem like a trivial detail, but I mention it to support a point. I feel that everyone who does much traveling or encounters hazards should carry some form of indestructible identification. I have carried the dog tag, not around my neck, for the subsequent thirty-four years.

When I went to the ship, Fred Bacon (who I previously mentioned) drove with me in my car, and then I went aboard and Fred kept my car for the next two years. They had a garage but no automobile. As I went aboard, I was carrying my foot locker, and the officer of the deck said that an enlisted personnel should be carrying my locker, but I told him that it was my stuff and I felt able to carry it. And immediately following, I had to salute the quarterdeck, which is customary

Naval procedure. I wasn't too sure where the quarterdeck was, [laughs] but anyway, I saluted in the general direction.

#### **PEARL HARBOR; PHOTO INTERPRETATION**

Things were rather confused at Pearl Harbor, even that much after the attack. But our photo interpretation unit was located in an officer's residence, where twenty-two ensigns were to serve under me as "progress officer." My job was to get photographs and reports out on a priority basis, but it seemed like everything requested was rush. And some of the ensigns weren't too concerned about the deadline, and I guess I was cracking the whip, and they were rather indifferent and non-concerned. But fortunately, one day a spokesman for them came to me and said, confidentially, that obviously I had considerable experience in supervising men.

But he said, "You're mistaken in this case, because these fellows aren't men." He said, "They're ten years younger than you are, many of them have never worked a day in their life; most of 'em are from wealthy families in the east. Many of them have attended Princeton, Harvard, Dartmouth, and they are homesick;" and if I would take that into account, I'd probably get better production. It never occurred to me that anyone that had a commission in the U. S. Navy wasn't a mature man. But with his advice, it certainly improved relations and progress.

About six months of this duty, we moved from Ford Island. Incidentally, as a coincidence, on Ford Island our BOQ was just about two hundred yards from the wreck and hull of the battleship *Arizona*. And my cousin was still entombed in the ship.

We then moved our office downtown, because we had so much photographic work. The Navy took over the second floor of the

Kodak Hawaii, a huge civilian lab, and so, we had to seek quarters downtown, instead of the BOQ. Two of us, Sam Barton and I, were members of the Elks Lodge, so we went out to the Elks home and obtained excellent accommodations. Most of the civilians that could go back to the mainland had gone, so there were vacancies. Each of us havin' a nice suite for twenty-five dollars a month, and our rental allowance for the Navy was seventy-five. They had the best food on the island, and a bar which was rather limited during this period in Hawaii. I felt so well taken care of that I sent my Elks Club dues back to Porterville, California, even though they had told me I'd been exempt for the duration. But I did pay the four years I was in the service, and then they applied it to the next four years after I got out.

While still at Pearl Harbor, one day Admiral Nimitz called on the phone, and as I was senior officer present, had to take the call. I had never met the admiral, but he seemed rather informal, and said that he was sending an aerial photograph over to us, and he wanted a report of all the information that could be seen in the picture. I thought, "This may be a turning point in the war." When the photo arrived, it was a single picture, so we couldn't examine it by the third dimension with the stereoscope, but it showed three Japanese destroyers going in evasive action while being bombed by high level attack of our Air Force. All the bombs missed. There was one near miss. So we wrote a report, rushed it back to him at the desired time of 1800; and to our surprise, the next day we saw in the Honolulu Advertiser, the picture and the caption under it was a boiled down, brief, newspaper's interpretation of our report. The classification by that time, had changed.

Also, while at Hawaii, I was promoted to senior lieu tenant, and of course, had to take

another physical examination [laughs]. Before leaving Hawaii, I thought I should go to the infirmary and have my teeth checked. I had nothing wrong, but I thought they should have a checkup that the physical examinations do not give attention to, and even have them cleaned. But they were so busy that they couldn't make an appointment, and suggested I go to a civilian dentist for that. And I didn't have time, but to my surprise, upon arriving in Guadalcanal, they had a very adequate dentistry unit and could give me attention without an appointment.

Sam Barton I'd like to mention, because I see him frequently even now. He's a consulting engineer in Boise, Idaho, and I've done some business with Sam and the firm. Sam and I both were trying to get into combat, and he made it a little sooner than I did. But after being at Hawaii for just about a year, I finally got orders to Guadalcanal. Typical orders that said, "Take the first transportation available," and to me that meant anything. So the first available was a little wooden boat—ninety feet long [laughs], classified as "APC," or auxiliary patrol craft. Apparently, they had been built originally for the across the English Channel invasion, and the British would have nothing to do with these little, top heavy, slow boats [laughs]. So, they sent 'em to the Pacific. It took us a month. If I'd waited a day or two, I could have gone by air, and it'd have taken only about eighteen hours, but that wasn't the first transportation available. There were three officers for the boat and twenty-two men. So they pressed me into duty to stand every fourth watch on the bridge. The "banana boat," I previously mentioned, was the biggest ship I'd ever been on. I'd never been on anything bigger than the San Francisco ferry before. But this was even smaller than the ferry. We were all seasick at various times. We had rough water and went around the edge of

two hurricanes. Between Hawaii and Samoa, a Japanese submarine run parallel with us all afternoon, tryin' to size us up [laughs]. They'd never seen anything like it. And we only drew six feet of water. They apparently decided we weren't worth a torpedo. And if they'd've only known, their three-inch deck gun would have made splinters of us.

When I went aboard, I saw two drums on the fantail, which in Navy terminology you call ash cans, which were depth charges. But the second day out, I looked at them, and they were full of water [laughs]. But maybe "the Japs" thought they were a decoy or something for them, and they left us alone. Incidentally, I might say through my discussion during the war, I'm not intentionally disrespectful, but I'll always refer to the enemy as "the Japs."

I'd like to go back to the Modoc again. In the winter of '41, they selected an area southwest of Tule Lake, as a location for a Japanese-American relocation camp. It was right at the edge of the Modoc National Forest, and I cooperated with them on a number of matters. But one of my efforts was in vain. I wanted them to take all of the dead timber in the locality where the trees had been killed in a beetle epidemic ten years before, and I thought this would be an ideal source of fuel to heat the camp—perhaps even the inmates goin' out and makin' wood. But the higher-ups decided that they would buy coal stoves and burn coal. Seems like every time I made an effort to clean up the heavy fuel, something prevents.

On July 24, 1943, we continued on across the equator. It was customary to have an initiation for those who had not previously had the experience. It happened our little boat was broke down, dead in the water [laughs] at about where the equator was supposed to be, and they were gonna throw me overboard for initiation. I looked down, and saw a huge

stingray harassing a crippled tuna. I pointed this out to the crew, and said, "Are you trying to feed me to the fish?" They got so interested in the fish that they forgot all about me, and ran and got a rifle and tried to shoot the stingray. I might say this ship's only armament was two fifty-caliber machine guns on the flyin' bridge that helped make the ship top-heavy. My quarters was called the radio shack; since there was mostly radio silence, the operator didn't need to use it. But I couldn't use it much either, because the porthole was just above an exhaust pipe from a generator. Of course, we had to be blacked out at night, so there was just louvres that directed the fumes into the cabin. So many nights I spent out on the flyin' bridge in a rubber boat.

As we were crossing the equator in the daytime, I was interested to see if the water in the water basin would change from going counter-clockwise to clockwise. But the sea was so rough that I was lucky to keep the water in the basin. Then at night I tried to see if I could find the North Star and the Southern Cross at the same time. This was unsuccessful too, but a few degrees south of the equator, the Southern Cross came into view.

We crossed the equator and arrived at Samoa several days later. Then between Samoa and Suva, we crossed the International Date Line August the fifth. The next stop on the leg of our journey was to Suva in the Fiji Islands. Stopped overnight there for water and supplies, continued then, on towards New Caledonia going between this island and New Zealand at the north edge of the Tasman Sea, which seems to always be rough. We got into the edge of a hurricane and in twenty-four hours made twenty-six nautical miles. The progress was so slow that the fix on the map was just one spot on top of another. Arriving at Noumea, reported in to Admiral Halsey's staff. And they greeted me by asking me why

it took so long—"Did you swim?" [Laughs.] I told 'em that it was the first transportation available. And then I heard Admiral Halsey say, "We've got work to be done. You're going to Guadalcanal. Take off your tie, roll up your sleeves, and go to work and kill the bastards." He had to rescind part of his order later, and that was in regard to rolling up our sleeves, because the medical department thought with our sleeves down there's less chance for malaria mosquitoes to attack.

When I arrived at Guadalcanal, many of my friends and associates at Pearl Harbor were already there. They wanted to have a welcome for me that night, and all they had to drink was what they call "torpedo juice." That is almost pure two hundred proof alcohol that was cut in half with water, and then diluted with grapefruit juice and then some coconut milk added that took out some of the fire. It was called "torpedo juice" because it was fuel used to propel the old, obsolete type of torpedo that they didn't use any more—but there was still plenty of the juice. The next morning in the tropics, I realized what a real severe hangover could be.

I failed to mention, going from New Caledonia to Guadalcanal, they put me aboard a DC-3 freight plane. Had several bucket seats. Some of the windows were out, and we traveled most of the eight hundred miles at an elevation of better than 10,000 feet. Having just tropical clothes on, I think that was the coldest I've ever been in my life. Approaching Guadalcanal, we dropped down just above the Coral Sea, about fifty feet over the water towards the last hundred or so miles, and it really felt good to thaw out. We made one approach to the one landing field, Henderson airstrip, and were waved off; made a loop, and the next time the pilot said, "We're comin' in whether you like it or not. We're out of fuel."

The reason the last hundred miles or so was flown just above the water was to prevent Jap "zeros" diving on us. By that time we were within range of enemy fighters.

## **GUADALCANAL**

I'll try to touch on incidents that to my knowledge have not been published and refrain from strategy, tactics, and accounts of battles. These have been well-documented. The first that I know of, even in paperback form, was Guadalcanal Diary, another is paperback, *Combat in the Pacific Theater*. And pages 156 to 183 goes into considerable detail, the most recent is *The Campaign for Guadalcanal*. As far as I was concerned, there were no heroics or bravery—just a forester in another emergency this time with the U. S. Navy.

My duties for the entire time, almost eleven months on Guadalcanal, were to serve as executive officer of an Interpretation Squadron No. One—the first of its kind. And an executive officer, theoretically, is on duty constantly. He is in command when the commanding officer is absent and isn't ever supposed to leave his duty station, ship or ashore. He is also the personnel officer for the unit. The Interpretation Squadron was one of the Fleet Air Photo Group No. One. There was another squadron in the group of Navy B24 planes used for reconnaissance, that is, aerial photography missions. And sometimes there was a Marine squadron also attached in the group.

The Fleet Commander was Commander [H. J.] Dyson, who was a graduate from Annapolis, an entirely dedicated career officer who had only one objective in life, and that was to defeat the Japanese. He was impatient, a hard driver, and tolerated no nonsense. In December, he was transferred and promoted



to captain, and I heard that he was given command of an aircraft carrier.

Our work consisted of several phases in the use of aerial photographs. Some were reconnaissance for maps of islands that no one knew much about. Another was to obtain, iron aerial photographs, information about the enemy and their occupied areas. The third part of our mission was to interpret “strike photos.” Those are the pictures that were taken when the Air Force or the Navy went on bombing missions. One of the planes carried a camera and brought the negatives back which were developed in a rush, made prints, so that we could assess the damage that the bombing might have occurred, and have reports ready for the next mission that usually took off at daylight. We were just about a twenty-four-hour-a-day operation.

My schedule for about the eleven months consisted of leaving the office at about four to five in the morning, when the reports were out, then sleep 'til about six-thirty, have breakfast, go up to the office (which was a Quonset hut), and start the officers on the morning shift interpretation. Then about ten o'clock, get about two hours more sleep 'til noon, have lunch, return to the unit and assign work for the afternoon crew. Then about four, play a little volleyball, go to the officer's club, have dinner. The prints from the day's photo coverage were not quite ready, so we'd go to the movie. Just after the movie, then, we'd spend the night with our most intensive photo interpretations.

I mention the movie because there's a photograph in the publication U. S. Navy War Photographs on page 40 (which I will leave for the Archives),\* showing the officers and enlisted men watching a movie in the rain. The officers had some privileges. I don't necessarily say that we should have, but under the projection booth there was room

for a handful of officers. In this picture I'm discernible pouring water out of my boot and pulling up my sock. The commanding officer did not think that was quite becoming of an officer while attending the theater [chuckles]. The bald-headed fella next to me is Elmo Brough, who I worked with in the Forest Service on range surveys in which aerial photographs were used on the Tahoe National Forest in 1939. He later followed me on the range staff job on the Modoc. This same photograph of attending the movie, occurred in the American Heritage *Picture History of World War II* on page 407. (Incidentally, Floyd Iverson, who followed me as range staff man on the Sequoia, then followed me in the same capacity on the Modoc, at the time I went with the Navy. We had had parallel careers up to this time.)

I participated in fighting one land fire on Guadalcanal near our camp, which was on the Malimbiu River at the end of the bomber strip at the Carney airfield near Koli Point. The Japs flew over one night and dropped phosphorous star shells to light up the target, and the shells lit in what we call “tall grass”, or locally known as *kogon*. This grass was as high as twelve feet. There were short grass on the island, too, but that was anything less than four feet in height. We wanted to extinguish the fire before dark so that the Japs wouldn't have that as a reference point when they came down on another bombing raid that night. It seemed to be a common practice and habit whenever there was a moonlight night, for them to send a squadron of bombers—“Bettys”—for an attack.

Their technique was entirely different than our system, which was mass high level bombing with a group of planes.

---

\*See Sack papers, UNR Library



Their squadron would rendezvous out over the ocean, and then each plane would come in for a run individually. Our anti-aircraft was quite ineffective. About all it did was to keep their planes above 20,000 feet in altitude. One of the most spectacular sights I think I'll ever see was on one of these, the last run, when a P-38 fighter arrived that was equipped for night fighting. When the raid was announced, the pilot took his plane up and feathered behind one bomber. We could see the tracer bullets and the explosion that left the end of a contrail. The plane came to the earth, and within fifty-five seconds, he made a second kill.

Our fox holes consisted of just a hole in the ground with a roof of coconut palm logs over the hole with then some soil piled on top of that. We did have one unique foxhole too, and that was a banyon tree. The numerous stilted roots with interspaces filled with sandbags, made an ideal foxhole with, you might say, a roof over a hundred foot thick. If a bomb hit the tree, it would be in the top and gave good protection. However, that more popular retreat was usually more than filled to capacity.

To me the biggest inconvenience of enemy attack was it interrupted our work. We had to have our reports done by about daylight, and if we lost an hour or two in a foxhole, we were not gonna meet the deadline. I've often thought too, some of the movies depict bombs dropping, making a shrill, whistling sound. Maybe the Germans did use that to frighten the Allies, but the Japs' bombs were almost silent—just a faint, swishing sound—and when you were close enough to hear that, you knew it was a near miss.

I mentioned the tall grass fire. Soon afterwards, I heard what sounded like a bombardment and thought perhaps the Japs were shelling us from ships in the sea. I looked

out in the direction and saw a huge convection column of smoke, or in the Forest Service on a big fire, we'd call it a "mushroom." So, havin' the urge of a firefighter, I jumped in the jeep to go to the fire. When I got within a mile of it, shrapnel was beginning to fall around the vehicle, and I realized that it was the Hell's Point ammunition dump that had blown up, so my advance to go to the fire was abruptly halted. I felt sorry for the patients in the nearby mobile hospital who had to suffer through this, and I have often wondered why a mobile hospital was so close to an ammunition dump. This almost delayed the operation to Bougainville, and was of such great tactical importance that General [George C.] Marshall, himself, came out to investigate.

The vegetation of the jungle was entirely new to me. There were no dendrology books. There was a little outline of the types of tropical vegetation put out by someone in Australia, and I was very anxious to find out what the various trees on the island were. I heard about a U. S. Corps of Army Engineers company that had a little sawmill and were logging to make lumber that could be used in combat area instead of having to bring lumber from the states, so I thought I'd go over and see them, because there would be a good chance that they'd know something about tropical forests or the identification of the trees. To my surprise, I was greeted by Swede Intermill, who was in command of the company. I've mentioned him previously at Iowa State when I had tried to teach him a little bit about dendrology, and he hadn't learned much since, as far as taxonomy's concerned. He says he doesn't know what the trees are; all he knows is that they can make boards out of 'em [laughs]. He took me out over the logging operation, and the loading of the logs are shown in a picture that I will provide the Archives,

showing Swede and some of his crew. Logging in the combat zone is very hazardous. In fact, ordinary logging is a hazardous business, but then when there were booby traps, both set by the enemy and later by our forces that were still alive, it added to the risk.

The Malimbiu River flowed by our camp, but it wasn't good to swim in for two reasons: there were crocodiles, and also fresh water seemed to carry a fungus that would get established in the swimmer's ears. So, about the only swimming we did would be when we went down to the beach, and that was rather a dirty situation, having been in the combat area for a year with the numerous ships that had sunk, leaving debris and oil slicks.

As I mentioned, many of the islands, especially the small ones, were not named nor shown on any charts. So, as an expedient, we named many of the islands for our girlfriends or wives, and it went just about from Alice to Zelda. I've often wondered if any of these names were ever officially adopted by some world geographical place-name commission. But anyway, it was easier to identify them by girls' names than it was to refer to them just by degree of latitude and longitude.

I'd like to mention too, something about the diseases in the tropics. Malaria on Guadalcanal was very prevalent, and a little bit of elephantitis. For malaria we took atabrine, because the supply of quinine had been mostly exhausted or curtailed. No one knew much about atabrine, but for eleven months I faithfully took one tablet each day. It seemed to be most palatable (it was bitter) by putting it in a bottle of beer and drinking it. Of course, our beer was all warm, but that was traditional for the Australian and British territory anyway. I'll mention this a little later towards the end of my stay at Guadalcanal.

The natives on the island were a pathetic, sad, little tribe. They apparently had malaria

all their lives. They would mature and be married about the age of twelve to fourteen, and their life expectancy was not much more than thirty years. There was no evidence that the British had attempted to improve their health or standard of living. It seemed about the only interest the British had in Guadalcanal was that of several coconut plantations.

I think it would be appropriate to mention the natives' food, since I briefly discussed their deplorable condition. Of course, the coconut is a staple food for all of the natives, both from plantations and then native grown. There were four different varieties of banana, but to me none of them were palatable as what we know. Of course, there was papaya, and I'm afraid that we confiscated the natives' supply while we occupied the island. It took me about six weeks to develop a taste for it. At first it tasted like raw pumpkin with a slight tinge of kerosene, but in time became very fond of it. There were wild pineapples. The fruit was very woody with a minimum of juice and sugar. Of course, there was much seafood in the way of both fish and crustaceans. I'm not sure how much the natives fished from their little canoes as there were sharks in the sea. I doubt if the natives ever really had red meat to eat. There were a few wild pig on the island and an occasional flock of wild pigeon, but as far as I know the islanders had no firearms. Occasionally, we'd see a coconut cat which is a marsupial, but I don't believe it would've been very good to eat.

The natives on Malaita, across the bay, were entirely different physically. They were larger, stronger, and didn't show symptoms of having malaria. It had been reported that they were cannibalistic. Perhaps they were, or maybe they still are.

They brought handicraft over to Guadalcanal to barter with military personnel.

It was their custom to rub caustic lye into their hair which sort of bleached it into a rusty, reddish color. So, our people would trade 'em a bottle of peroxide (that they discovered was far less severe for their hair [laughs]) in return for war clubs or walking sticks. After the supply of peroxide had been exhausted, the natives from Malaita went on a monetary basis and sold their wares. And at that time, I bought a walking stick from one of them for five dollars. I didn't need a walking stick, but I didn't have much use for five dollars either. But I'm glad I have it, and I'd like to mention it briefly. It was made from wood of a palm tree, which has long, coarse fibers, and we don't think that members of this race of trees has any value as wood. But they had some technique—either in selection of the harder material—so that the wood took a good polish. The handle was also inlaid with mother-of-pearl. I don't know where they spent their money for these items, because there certainly were no stores on Malaita.

Our mess came from the Army. All of our eggs and milk came in powdered form. When the eggs were scrambled about four in the morning, and served at six-thirty, they took on a greenish hue [laughs]. But we prowled around and found some megapod eggs on the beach. This is a large-footed bird that buries the eggs in the sand, somewhat the way a turtle does. We were probably encroaching upon some native's designated plot, but we found some, and took 'em to camp, and cooked 'em. They tasted quite fishy, but at least it was the first fresh egg I'd experienced for a long time. A little later, a case of fresh eggs came in from a ship that had refrigeration. So, each one of us was allotted an egg for breakfast, but unfortunately mine was hard-boiled.

There were usually several Liberty ships just offshore from our airstrip being unloaded,

both with fuel and ammunition. Two of them were bombed by the enemy, set afire. I had a great admiration for our CB's—that's "C" as in corn—Construction Battalion. While the ships were burning, they were unloading the cargo, not knowing when the bombs would explode.

There were frequent changes in the high command in the Solomons. Sometimes it was under General MacArthur, and other times it shifted to the command of Admiral Nimitz. We sort of had a running joke that when we were under Nimitz, we were not in combat. When we were not in combat area, we paid fifty cents a carton for cigarettes, and when we were in combat, under MacArthur we got 'em free. That doesn't seem like very much, but most of them were moldy and didn't taste very good. I always had great respect for Admiral Nimitz, almost worshiped him when serving in his command, we did not have that feeling when under General MacArthur.

One of the things that bothered me was what we called "operational losses." When planes are destroyed on the ground or shot down by the enemy, that's sort of the way war is. But many of our planes were lost not as direct action of the enemy. I remember one of our B-24 bombers in the Thirteenth Air Force was returning during the night to the Carney Field and hit a tree right by our camp, was set on fire, and when the first six bombs exploded we hit the foxholes and stayed there 'til the sixth one, by count, had exploded. When the enemy does something to us, it seems to me to give a feeling of determination or hope for revenge. But when we have operational losses, it gives a sort of feeling of futility.

On the island, too, I experienced one of my most rememberable optical illusions. There was a Jap plane flying low over us, and we all thought that it was strafin' us, because we could see tracer bullets, so that put us in

the foxhole. The plane crashed nearby, and to our surprise, there was no armament on the plane. It was a crippled observation plane and what we had seen were tracer bullets flying from our batteries on the ground up to the plane—just the opposite from the way it looked. Since then I've never argued whether lightning goes up or down. Some scientists say that it does go up. Maybe it goes both ways, for all I know.

One day at our interpretation unit we had a visitor, and I could hear some rather loud talk in the next room. So the officer of the day came to me and said that, "There's a very irate lieutenant that wants to either see the commanding officer or the executive officer," because we were not getting the work he needed in photographs and maps out for him soon enough. The CC was absent, so I told him to bring him in to my office. To my surprise, there Wes Spinney was, who I'd mentioned having lived with at Quincy and also at Tule Lake. Well, his belligerence immediately disappeared, and we talked a little bit about old times, about our present duty. I assured him that he would get his pictures in prints as first priority. His assignment was a very dangerous one, called "crash intelligence," where he and about twenty enlisted men went to either neutral territory or enemy-occupied territory to get information about Japanese aircraft—either those that had crashed or had been abandoned on strips that they were forced to retreat from. To make things more dangerous, the abandoned planes were usually fixed up with booby traps so that there was a chance of them being blown up while they were seeking details about the various enemy planes. They were successful in recovering one Japanese Zero fighter intact.

Well, Wes had the malaria. He was tired, somewhat discouraged. So, we invited him to stay with us. He was due for some recreation-

rest in Australia, but the orders hadn't come through yet—maybe that's why he was discouraged. But he shared the tent with Elmo Brough and me from Christmastime 'til New Year's.

It was a dry camp at Christmas. Each enlisted man had an allotment of one can of beer. The officers had nothing. Our allotment had not yet arrived. But it did come in on New Year's Eve, and Elmo and Wes were celebrating the occasion when the air raid warning came, so we had to hurry to our foxhole. Elmo wasn't in very good shape, so I helped him into [laughs] the hole in the ground, and when the "all clear" came, I admit that I did a mean thing, and left him in the hole all night [laughs]. We adopted a white parakeet, and Wes got the bird feeling pretty good, too.

As observance of Christmas, the regional office of the California region sent out a greeting to all of the region personnel that had gone into the service, signed by S. B. Show, giving what news they had about different people. I mentioned Paul Pitchlyn previously, and this contained an announcement that he had retired, and that Kelly Traugh was taking his place. And I also quote from the next to last paragraph, "When last heard from, Ivan Sack was somewhere in the south Pacific zone where in company with nine other foresters."

One of the things I remember, a regiment of Marines came back to Guadalcanal from a hard battle at Munda. They were tired, sick, worn out, and it's rare that you see a Marine not hold his head high. But these certainly needed rest in an area of less combat.

Incidentally, our intelligence work was a service to the First and Third Marine Divisions, the Americal Army Division, and the Thirteenth and the Fifth Air Force. The Thirteenth was B-24s, and the Fifth were the two-engine B-25s, or those were called Mitchells, and the 24s were called Liberators.

I mention the B-25 because I was given an assignment at Bougainville, and they took me from Guadalcanal to Bougainville in a B-25.

I might mention en route to Munda and then Treasure Island, and then to Bougainville, between Guadalcanal and Munda we saw a waterspout out over the ocean. Might explain this is something like a dust devil or a cyclone, only the force had picked up water so the funnel was water. The pilot was very curious and wanted to go over and look at it, and I warned him that'd be just like flying into a stone wall. Although I was curious to see whether it was rotating clockwise or counter clockwise. Anyway, it's a rare phenomena, and we're glad to have observed it.

The area our forces held at that time, at Empress Augusta Bay, was only about twenty square miles; and the Japs around the perimeter on high ridges were lobbing artillery shells into U. S. territory, using the old French "75" artillery pieces so famous in World War I. At night they would do their firing, or if a plane was landing or taking off, they would open fire on the airstrip. They'd knocked out the two bomber strips, and destroyed a third of the fighter strip.

When we flew into the fighter strip, in a light bomber, without much runway, we had to go over Japanese machine gun nests, and fortunately they didn't hit us. When we landed the artillery didn't hit us, and I might explain why I was there. We persuaded the Army and the Marines to use a naval bombardment pattern instead of their type. Instead of shooting where the enemy was the night before, to shoot, by the use of gridded photographs, a pattern where they might be hitting the Jap artillery pieces where they had moved. They'd shoot one night, and then move to another location for the next night.

On our return trip, we stopped at Treasure Island again, and the airstrip was so busy with

combat aircraft in attack that we couldn't find a place to park the plane or to get fuel. After we had taxied (seemed like miles) with no place to stop, the pilot decided to take off for Munda. To me it was a little disconcerting to see brake drums on the wheels, hot and smoking from having to brake on the taxing, and then see them fold up into the wing near the gas tank. But luck was with us, as has always been with me. However, in that day, we flew five combat missions, and if I had been in the Air Force, I'd'a got an Air Medal.

I'd like to submit for the Archives a newspaper pictorial feature that explains the mission and performance of the unit I was with in reconnaissance and interpretation aerial photographs. \*

Whenever documents were captured from the enemy, they would come to our unit for reproduction and then to another unit for translation. It seems that almost every Jap kept a diary. Some were sentimental, some were belligerent, and others were humorous. This is a contrast with our people of the Navy. We were prohibited from writing diaries. If we had, I'd probably have a better record of my experiences. For thirty-four years in the Forest Service, I kept a diary, (which was a boring task) but at least left some form of record by each day.

Speaking too, of captured documents, the Japanese aerial photographs that were obtained, convinced me that our photography was far superior to that of the Japs. From the few aerial photographs I've seen by the Nazis, I think we had better quality and more usable pictures than they.

There was constant improvement in our photographic techniques, and by the time the aerial coverage of Truk was made, our planes were taking color transparencies.

---

\*See Sack papers, UNR Library



We had a large stereoscope that it was possible to run these on a roll through the machine and see the third dimension. One occasion, I recall there were red crosses on some of the buildings in Truk that to us would indicate hospitals and should not be targets. These would have barely been discernible on black and white, but they came out clearly by the color. We also took infrared photos for special study.

I'd like to give credit to a group of men that I consider extremely brave and contributed their share in the war effort, and those were the Australian coast watchers. I believe in 1974 there's been a paperback novel written about them. But they had one of the most difficult assignments of any group in the tropics. They occupied enemy territory or neutral area and would send by radio, movement of Japanese forces in the air, on the sea, and on the ground. Once in awhile they would be so harassed by the Japs that it'd be necessary to go to an island in a submarine to rescue them. They seemed to have a liking to our camp, so they'd come back, even though it was in combat, to rest up with us and tell us some thrilling experiences.

One of the last assignments while I was on Guadalcanal was for our unit to prepare intelligence material for the invasion of the Marianas. They would recapture Guam and also Tinian and Saipan. Huge quantities of photos and maps, reports, were flown from our unit to join the carrier task force as they were steaming toward the next campaign.

In the Solomon Islands, I'd like to compliment the American Red Cross. They, I think, did everything they could, and moved up into combat area just as fast as the military would allow or provide transportation. The USO was also in the Solomons, but I can't speak so highly for their entertainers. Sometimes when they were scheduled, and it was raining, our people would sit out in

the rain and wait for the show, and then they would call it off.

### EXTRA-CURRICULAR ACTIVITIES

Since we had always had a large photo lab in connection with both the reconnaissance squadron and the interpretation squadron, we were allowed to have numerous copies of photography that were cleared by the Naval censors. (Pictures that I have provided the Archives all show this stamp.) I'm afraid also, we originated pornography. Some of our photographer's mates had previously worked in Hollywood, and they brought some negatives of nudes. So, each month we would publish a calendar that had wide distribution, not so important as to the date, but at the top of each calendar sheet was a picture of a nude. We had one admiral in a nearby command that liked this type of photography, and when he was transferred back to Washington, D. C., he left an order that we were to send a dozen of those to him each month. In order for them to not be out of date, we would send them in the pouch by officer messenger [laughs].

About this time our reconnaissance planes, staging from Bougainville, were able to fly over Truk. Hardly anything was known about this Japanese stronghold. Previously, one submarine was successful in getting a small picture through the periscope of just one entrance. But Truk as a whole was a mystery, and upon return of the reconnaissance plane, everyone wanted a report and aerial photographs immediately, including Admiral King, Chief of Naval Operations in Washington, D. C. Each day he would ask his WAVE secretary if anything had arrived from our unit, and things seemed to be movin' slow; she had to report nothing had come in. Then one day he asked her again, and she said, "Well, there was one package that



came today,” and he said, “Bring it in right now. I want to review it.”

She said, “Admiral, I don’t think this is what you’re lookin’ for.”

“Well, it couldn’t be anything else.”

She brought ’em in [laughs]. There was twelve prints of our calendar with the nude. The Admiral, I’m told, hit the ceiling, and sent out an order immediately that none of that kind of stuff was gonna ever leave the Solomon Islands again. War is hell [laughs].

Many of the pilots, and some of the crews were given what we called “R and R,” that is recreation and rest, at either New Zealand or Australia. I was a little jealous, but felt that if anyone deserved recreation and rest, the plane personnel certainly did. I did get one weekend off for a trip in the New Hebrides at Espiritu Santo. This was the first time in about eight months that I had a hot bath. At our camp on the Malimbiu, it was all cold water showers.

Soon after this though, the Navy nurses arrived on the island, attached to a mobile hospital unit. There were thirty-five in all, and we had the honor of entertaining them for their first social event on the island. The medical captain came over ahead of time to see if there were suitable facilities for the nurses and made an inspection of our one-room officer’s club—the walls of which were adorned with pornography again. They were small prints, except there was one large picture back of the bar, life-size, it was tinted, and he thought that that should be concealed. So, we hung a black drape over it, but arranged it with the cord that went over the rafters to the back of the room with a ripcord handle, so that logically when the nurses wanted to know what was behind the black shroud, tell them to go to the back of the room, and pull the cord—and it would spread to display our favorite object.

These nurses were really beautiful girls, and I don’t say that because we hadn’t seen

girls for a long time. They were young, beautiful, vivacious officers in the Nurse Corps that livened our moments, especially for the ensigns. I was somewhat older, but fortunately there were several older nurses too.

The notorious Tokyo Rose and her programs were beamed to us, and we really enjoyed hearing from her. Her comments were so ridiculous that it was humorous, and she did play good American music. As an illustration, one day she said, “It has been proven that the mighty DC-3 plane of the Yanks is no match for the Japanese Zero.” Well, to us that was hilarious. There’s no armament on a DC-3, except the pilot may have a knife or possibly a pistol.

During my spare time, I prepared a type map of the vegetation of the Solomon Islands, from aerial photographs principally, but trips such as to Bougainville gave me a chance to field check a little. There were ten principal, vegetative types as follows: I mentioned tall grass and short grass; there was swamp forest, rain forest, mangrove, casuarina, nipa palm, wild sugarcane, rain forest and moss forest.

It’s surprising how the big, tropical jungle trees suffered by combat and also human occupancy of the area. Trees of the *Ficus* genera, perhaps a hundred feet high, that had been disturbed—some just apparently from trampling of feet—started to rot, decay. The bark of all of these species was extremely thin, and with the high humidity and warm temperatures apparently fungus acted very rapidly. I pointed this out to the group commander one day, after the wind had blown one tree over near camp, and explained to him that there was a chance of destroying part of the camp if other trees went over. He asked me how I knew and I told him that I was a forester. “Well,” he says, “then if you are, you have the job of eliminating them.” There was

one especially, right next to the mess hall (as the pictures divulge), with a huge, burnt cat face and rot that was really dangerous.

Well, being a photographic and reconnaissance unit, we had no equipment or even enough people with know-how to fall the trees, so I went back to my friend, Swede Intermill, and he brought his loggers and their equipment over and dropped the dangerous trees. The photographs [looks at photos] provided for the Archives show a huge tree by the mess hall as it was standing, and then the falling operation—men standing on springboards, cutting an undercut, and then the last picture, actually a view of the tree falling. Only one branch nicked the corner of the mess hall.

I'd like to elaborate a little more on the sego or star palm, which grows in the swamp forest. It's called a star because it looks as a star in an aerial photograph. Many years later, I read that this species of palm is thought to be one of the oldest living plants known to man. I'm not sure how they determined that, because palms do not have annular rings to indicate the age, and it doesn't seem quite logical to me that it would be adaptable to a carbon-14 test. But anyway, that's a claim.

I should mention too, "millionaire's salad," which was made from the terminal bud of the coconut palm. Whenever a palm tree was cut for clearing of land, either airstrip or supply area, we would try to be first on the scene to get the top for salads. It tasted a little bit like Chinese lettuce.

### PHOTO INTELLIGENCE WORK

In May, 1944, I received my orders back to Anacostia, D. C. As I'd been out almost two years, I was ready for rotation. My relief as executive officer had arrived, but I wasn't in too great a hurry to leave, for several reasons.

The jungle intrigued me, and I wanted to get a ship that would go to Australia en route to the United States. So, waiting several days, the ship supposedly came in, and I boarded it at the Russell Islands.

Oh, I'd like to back up on two points in regard to the orders. The draft board from San Francisco had sent me a notice to appear for induction [laughs], and I replied that if they'd provide the transportation, I would consider complying. It went to them, having passed the Naval censors, so I guess they were convinced that it was authentic. Also, when the orders came, the flight surgeon told me to discontinue taking atabrine, because with their limited knowledge, he was sure that I would come down with malaria, since atabrine was supposed to be only a suppressant. So, I followed the advice, that I'd have my first attack before I went on my vacation time. But there were never any symptoms to show. To me atabrine was far more effective than their most optimistic predictions.

After I went aboard the ship, it received a change in orders, and they took aboard twenty-five hundred Marines, the first of those to be allowed to return to the States after their long, hard campaign—also, about twenty-five hundred soldiers. There were many casualties, wounded among both Marines and the soldiers. Some were basket cases, and the ship, instead of going to Australia, went straight to San Diego. It was a fairly large troop ship—had to have been to carry that many people. It was a C-4 hull, the same type that auxiliary aircraft carriers use. It had a speed of about twenty knots, but there was no air conditioning, ventilation, and with their change in orders, a scarcity of food and water. My compartment was shared with seventeen others. We slept in triple bunks. Fortunately, I drew a lower one. The second day out, two of the enlisted men

that were in our squadron came around to see me to determine if I could help them get any better accommodations. When they saw where I was, they realized that they were just as well off [laughs]! We were in the tropical zone almost all the way to the States. One of the most impressive ceremonies that I've witnessed during the war, was a burial at sea. At 1000 numerous mornings, the starboard deck would be cleared, and the casualties that died during the night were committed to the deep. It was such a profound and simple rite that I've made arrangements for my disposal by the same means. It only requires a notification of the commandant of the nearest Naval district.

Digressing slightly, it seems to me that some of our best, most productive, and useful lands are occupied by cemeteries, and if higher use should develop, there's nothing more difficult than to move a cemetery. So, to help avoid pollution of the earth, I chose the route in the sea, the "deep six," you might say [chuckles].

While we were in the Solomons, Eleanor Roosevelt came out on a so-called inspection trip. I often wondered if the trip was necessary. But inadvertently, she did more to lower the morale of the Marines than Tokyo Rose. After seeing some of the battle forces, she published the observation that the Marines were wild men, and that they should go into a month of quarantine when they come back to the States. Well, every Marine had visions of the glory and pleasure of returning home, and didn't relish the idea of having to be quarantined awhile before they could be released into society.

As we arrived at San Diego, I made it a point to observe these so-called wild men, and to me they were just tired, hungry fighters. They wanted to get home, have some rest, some home-cooked food, and probably see

their old girlfriends. As we came along the wharf in San Diego, I noted that the ship had about a six-degree list towards the wharf; and that was obvious, because there was a platoon of women Marines on the pier [laughs] to welcome the troops returning from the South Pacific.

I took the train to San Francisco from San Diego. My first intention was to stop off at Los Angeles, because several of the photographer's mates had given me some good phone numbers. But I arrived in Los Angeles at midnight, and was on the train at seven o'clock the next morning headed for the Bay area. I stayed there three or four days at the Elks Club—couldn't find a hotel accommodation—but they were very gracious in takin' care of me. Renewed acquaintance with some of my friends in the Forest Service, and at that time learned that the Toiyabe and Mono national forests had been consolidated and placed under the Intermountain regional forester.

As I mentioned, the Bacons had my car for two years, and it was a new experience to drive with gas rationing and forty-five mile an hour speed limit. The first day I made it to Reno, stopped there and saw several friends, continued on. I spent about ten days in Iowa with my mother and father. At the end of this visit, I was becoming more restless and started out towards Washington, D. C. I had thirty-eight days of annual leave earned, but I didn't think I had to take it all then. So, I reported in to the commanding officer of the Anacostia air station about ten days ahead of time. They looked at my orders and told me I was ten days early and wouldn't let me return to duty. That weekend I took an excursion ship down to Norfolk, Virginia, because I'd never been there before—three days returned to Washington. Thought I'd try it again [laughs]. Then I was only seven days early, but they still

wouldn't take me. So, I went to New York City to kill some time, and ran across an officer who I'd served with in the Solomons who had two show girls from the Latin Quarter on the string. We spent some enjoyable time, but it was on the graveyard shift because the show didn't close 'til about three-thirty in the morning. By the time I returned to Washington, they were ready to take me, and I was ready to go to work. I'd spent most of my money and was tired [laughs]

To my surprise, the photographic intelligence center was housed in a new three-story building with all of the facilities, equipment, we dreamed existed for this type of work. I was supposed to take a photo interpretation refresher course, in which was supposed to become acquainted with new techniques and procedures. Several handbooks had been written, but during the refresher session we helped develop some of the techniques or materials for future handbooks. I recall one procedure that was quite interesting to me and that was how to determine the depth of water along the beaches, both by the shape of waves and interval between the waves. This was very important for amphibious operations. We perfected another method where the bottom was visible by using a stereo comparagraph, where we could measure the depth of the water within the hundredth of a foot of actual soundings. This is about as accurate as possible, considering the fluctuation of tides.

The commanding officer of the intelligence center heard about the work I'd done in Guadalcanal making a vegetative type map, and it happened that fit in with one of their proposed handbooks that had been assigned to Lieutenant Commander Robert N. Colwell. He was a Ph.D. in forestry and in my opinion, one of the leading authorities in the use of aerial photographs

regarding vegetation, both natural and cultivated crops. He also gave lectures that seemed to hold people in suspense, even for a somewhat dry subject. He was being assigned to a Pacific operation in Guam, and I was to take his place, which meant I was going to try to fill some very big shoes. In fact, it was impossible to have the knowledge and ability and stimulation that he had. He left me a brief outline and some photographs to proceed with the handbook *Vegetation of the Pacific*. At that time, the interest was confined to the tropics. The ten types that I mentioned previously were analyzed, and I prepared a key for their identification. To supplement the key, originated the idea providing stereo pairs for each type so that after reading through the key, you could glance at the photographs, and check it out under stereo. I'm quite sure I originated the idea, although after the war there were several civilian resource men that claimed that they developed the method, but since our publication was classified, they didn't know about the work done previously.

I believe a little bit more of a sketch about Dr. Colwell is justified. He was always one rank ahead of me and retired as a captain in the U. S. Naval Reserve. At the present time he is a professor in the School of Forestry at Berkeley, and he and his students are working on the space photos that are transmitted to the earth from the satellite. It's a very stimulating subject. Dr. [Paul] Tueller in the Renewable Resource Center here on the campus, I believe, is the leading authority at the University of Nevada. But Dr. Colwell, or we always called him "Bob" (he was very friendly and informal) has pioneered much of the interpretation of aerial photographs. For example, he can tell from a photograph of a vineyard, when the wine season is over, and when the grapes should start to go to be

raisins. I heard him lecture in 1950, and he's just as stimulating as ever.

On October 10, in Washington, D. C., I was married, and the next morning when I reported for duty, I was told that I was scheduled for a physical examination. I thought they were joking, but they were not interested or concerned about my matrimonial status [laughs], and I discovered then that I was being considered for one of two assignments. Bob Phillips and I were candidates for teaching photo interpretation at Annapolis or to attend the advance operation intelligence school in New York City, which was to last ten weeks. Bob was willing to go to Annapolis, and I didn't especially relish the assignment because I was afraid that I might be tied up there for the rest of the war. So, went to New York for an intensive, advanced operational intelligence course that included navigation, which I certainly needed. On the little ship that I had mentioned previously, when I was in command on the bridge, my navigation was about the same as running a compass line across the Devil's Garden ranger district. In this training, they also taught us the use of the maneuvering board, which was helpful in gunnery, as to how one moving ship could hit another moving ship. I'm still not the best navigator, but most of those old methods are now obsolete by the use of radar and electronic direction.

While at the school, we were all notified that we had to take swimming lessons. As I mentioned previously, swimming was of no concern to the Navy, but after two years they realized that personnel should be able to swim. That was the easiest course [chuckles] I ever had to take. It was mostly convincing them that I didn't need any lessons.

For the final summary of the school, they divided us into teams of five, or might call it a staff, and our assignment was to prepare an

operational plan for the invasion of Formosa, which now I believe is called Taiwan. There was one team that didn't want to put forth the effort, so their conclusion was that such an operation was not acceptable or desirable, which in the end was proven right as Formosa was never invaded. But we took a positive approach and developed a plan, and then it fell upon me to present our plan and conduct a critique following it. And it happened that there was a large audience of admirals, both from the fleet, the war college, and Annapolis to appraise our work. We came out with a good score and glad that that part was passed.

From New York went back to Washington anticipating orders back to the Pacific. A friend (and might say running mate) and I were the next candidates. He'd been to the Aleutians and wanted to go to the Central Pacific. I'd been in the Central Pacific so wanted to go to the Aleutians, but in the end it turned out we both went back to where we'd been. However, my orders were delayed for about four months, because the combat was beginning to move from the tropics to the temperate zone.

The B-29 long range reconnaissance planes were bringing back aerial photographs of Japan and farther north. So, they decided that the handbook that I'd written should be expanded to include the land, islands from the equator to the Arctic Circle. Also, cultivated lands were becoming more important to identify. I should have mentioned one of the purposes of the handbook was to read the type and tell what it indicated and its significance to military operations. Each type was classified as to ease of movement, of men on foot or mechanized equipment through the type (concealment from the air and the ground), and even to some extent uses of that type in the war effort. As an illustration, a rice paddy, when it's flooded, is an obstacle



to even tanks. But when it's dry, it's like driving on pavement.

Dr. Colwell had not left me any information about cultivated crops, so I had to dig that out. Although, now he is the authority in reading aerial photographs in regard to cultivated crops, especially in California.

Perhaps my greatest contribution to the Navy was in a negative way. When they were preparing to invade Okinawa, the Air Corps was very concerned about what appeared to them to be a new type of anti-aircraft gun that the Japs had interspersed on the island. So, they sent the pictures over to us, and it fell in my category, because of the dense vegetation around the so-called emplacements. I recognized that the vegetation was sugarcane fields in two and a half hectare units. I didn't know much about cultivating sugarcane, but read everything I could about it. Went over to the Forest Service chief's office, so that they could open the door for me in the Department of Agriculture. I read more, and discovered that what looked to be anti-aircraft guns were sugarcane presses. The circle that looked like a revetment was the circular path that either a man or a beast would walk around, (pulling an arm that looked like the gun barrel) to press the sugarcane. So, we were able to tell the Air Corps that this is one feature in enemy territory that they need not be concerned with. A stereo print of this feature in sugarcane was included in the handbook.

When the handbook was ready to go to press, I wanted to give the Forest Service an acknowledgement for the help that they'd given me. Even some of the pictures of the temperate zone forests came from California region photographs. The commanding officer was not receptive to giving acknowledgements to anyone. He said that the military had the right to any material which they wanted from any source. But I convinced him that

it was more than just the source, that it was their cooperation and time that they spent helping me that they were not obligated to do. So as a result, the Forest Service received an acknowledgement in the forward page of the report.

In regard to the vegetation handbook of the Pacific, I'd like to discuss more about what different types of vegetation indicate. Those that are discernible from aerial photographs have considerable significance. Dr. Shantz, who I mentioned previously, had taught me about some plants as indicators, and how they can be read as to divulging some existing condition. For example, the *Casuarina* grows along near the water, but only grows on high, well-drained, sandy beaches, which means then an ideal place for an amphibious landing. While mangrove is impenetrable by forces on foot or by mechanized equipment, it occurs right at the edge of salt water, so at low tide the aerable roots and stems are exposed; and then at high tide the water reaches the level of the crown. As an illustration how difficult it is to go through this type—when I was at Bougainville, I noted one side of the perimeter was a mangrove swamp. The rest of the perimeter needed barbed wire entanglements, but not in the mangrove. As far as I know, there's never been a machine developed that can travel through it.

I mentioned nipa palm that indicates the water is brackish. It grows near where streams flow into the salt water. It isn't in direct salt water, such as mangrove, it's been partially diluted by the fresh water. Just above nipa palm, wild sugarcane occurs, and you only find that in fresh water, similar to the cattail that Dr. Shantz had explained to me.

I mentioned the interest in vegetative types of military significance clear to the Arctic Circle. And of course, those in that vicinity were mostly tundra that occurs on



the Aleutian Islands, and extends on down to some of the more northern islands of the Kurile, north of Japan.

Tundra is, to me, a rather fascinating life zone. There are three kinds; wet tundra, more typical further north, that has many shallow, intervening lakes; then moist tundra that during the summer becomes dry enough to burn; and then alpine tundra, small samples of which even occur in the highest elevation in the Sierra Nevada, or on top of Charleston Mountain up above the bristlecone pine belt. Much of the tundra consists of dwarf willow, sedge or carex, and in the spring a multitude of showy wildflowers. It was very apparent where the Jap operations occurred on Adak and Attu Islands, because wherever they crossed tundra, they left distinct tracks. Some ecologists think those tracks'll exist for a century.

One of the features of the land form and vegetation handbook, was an oblique photo, or composite of photos that I was able to put together—part of which were photos on Bougainville, and the other part from Guadalcanal. By blending the pictures showing all the tropical types. Then a month or so before I was ordered from Guadalcanal, Roy Saarni reported for duty with us as a photo interpreter—being recently commissioned an ensign in the Navy.

In August, 1944, soon after I reported for duty at the photo intelligence center in Washington, the commanding officer came to me one afternoon quite disturbed and worried, and said that General Arnold and General Marshall were trying to get ahold of me to talk to Joe Elliott. The commanding officer said, "Those are two five-star generals, and Joe Elliott must be a VIP," and he asked me what I'd done. Joe Elliott's name rang a bell, so I, although I was a little startled, I tried to be nonchalant, and said that, "Those guys

have been my friends from way back." So, on the phone with Joe, he invited me to General Arnold's quarters for dinner that night. I told my commanding officer of the invitation, and asked him if I could leave a little early so that I could get my dress uniform on. And he says, "Go right now and stay as long as you want!" [Laughs.]

So, I joined them at Fort Meyer, and Joe explained a little of the background of why he, and to my surprise Roy Booth also, was there. It seems that after the Normandy invasion was secure, the two generals decided to take a little much deserved vacation. So, they arranged with Joe Elliott to take them on a pack trip into the High Sierra. The trip that they made was on the Inyo National Forest where Roy Booth was supervisor. Incidentally, they took the horse that I had used, that I mentioned previously from Modoc down to the Inyo, for General Arnold to ride. Upon the termination of the high-country pack trip, the two generals invited Joe and Roy to come back to Washington with them as a return for their hospitality.

I don't think Joe or Roy had ever been to Washington before. And upon their arrival, General Marshall told Joe, "Now anything you want to do here in Washington, just say the word." And Joe said he wanted to sit in the Chief of Staff's chair, put his feet up on his desk, and talk to Ivan Sack [laughs]. It's surprising how soon, under such circumstances, they can find a lieutenant in the Navy in Washington, D. C. We had a very pleasant evening, reminiscing about our previous experiences and especially fishing in the High Sierra.

I might say (as to a little character sketch of the two generals) of course, I've known Hap Arnold before and I called him Hap, but I certainly didn't call General Marshall "George". General Arnold reminds me, or

put it the other way, Jake Lawlor reminds me of Hap Arnold. Their appearance, ruddy complexion, about the same amount of hair on top, and mannerisms are somewhat similar, although General Arnold is about a head taller than Jake. General Marshall was a more reserved, dignified, quiet individual.

In May of '45, I received my orders to the Joint Intelligence Center of the Pacific Ocean area, headquarters at Pearl Harbor. The first transportation available was one of the "China Clippers" that had inaugurated service about five or six years previously between San Francisco and Hawaii. It had sleeping berths for fourteen, and there were sixteen of us to make the trip, so we became rank-conscious—see who had a place to sleep. There were two WAVE officers, so without complications, they were assigned berths, and then as a result two ensigns sat up all night. It was an all night trip. We were delayed a little taking off from San Francisco Bay, because of high waves. A seaplane cannot take off when the waves are more than about five feet high. But we had a very smooth and quiet landing at Honolulu.

My assignment at the Intelligence Center was to head up the photographic interpretation portion of intelligence. And one of the first questions I asked upon arrival was how far behind the photo lab was in meeting orders. That always seemed to be a problem for a progress officer, or an officer in charge of photographic reproduction. And they told me they were 300,000 prints behind! Well, I was rather startled by that. And so then I asked what their production was, and they said a hundred thousand a day—so really only three days behind. Apparently, we had sold photo interpretation to the admirals and the generals. The distribution list for our reports and photos looked like a telephone directory.

Soon after reporting for duty, I happened to see Fred Bacon, who I've previously mentioned. He was a lieutenant in the U. S. Naval Reserve, assigned to the Naval base to reclassify civilian employees. He had about 2900 of such classifications made, and there was only one that was questioned. Also, in my unit was Don Bower, who I knew in Washington in the photographic intelligence center, and who is now supervisor of the San Bernardino National Forest in California. Lew Moran was also in our unit, and today he is state forester for the California Division of Forestry.

Much of our work, of course, in the out-of-combat, was quite routine. The Intelligence Center was a huge compound that photo intelligence was just a small portion, although we had the top floor of one building.

Immediately following the dropping of the A-Bomb on Hiroshima on August 6th, the aerial photographs came to our center. They were classified as "top secret." We assessed the damage and forwarded them on to Washington, D. C. The classification then was changed to "confidential," and within a week they were non-classified and appeared in *Life* magazine.

On August 14, the Japs capitulated, and we had in the Intelligence Center, advance information about forty-eight hours prior to this. So, anticipating a celebration, I made reservations at the Moana Hotel on Waikiki for a room for Fred Bacon and myself. It happened to be on Fred's day off, and the morning of the fourteenth, Fred felt that he'd better get back to duty. And I kept stalling, knowing that the announcement would come, but I couldn't tell him. I was beginning to wonder if the information we had was wrong. But about eleven o'clock it was announced, so Fred realized [laughs] he didn't have to report to duty. Waikiki was really a bedlam.

It got so wild that we went to our hotel room, and locked the door, and just looked out the window on the street to see the celebration. And then somebody broke in our door.

After the surrender was signed, early in September, I had an opportunity to go to Japan and work on the sanitary system in Tokyo, partly based on aerial photographs. I couldn't see that aerial photographs would be of much use to trace out sewer systems, and declined. So, they gave me orders back to Alameda Naval Air Station. But before they would take me, they gave me another physical examination to get out of the Navy—more intensive than the one in order to get in. Had to wait a couple of weeks for transportation, and then got on the new carrier Hornet, the first Hornet was sunk in the Coral Sea soon after the Doolittle raid on Japan, the B-25s took off from her deck.

---

## “CALL ME RANGER”

Arriving at San Francisco Bay on October 3, I was separated as an active officer in the Reserve and promoted to lieutenant commander. My leave was sufficient to last until the first of December, before I could resume my work with the U. S. Forest Service.

I went to the regional office though in the meantime, and saw my old friend Kelly Traugh, Chief of Personnel Management, and he asked me if I should be addressed as “commander.” And I said, “No. Call me ‘ranger.’”

I might go back a ways. Following World War I, when people went into civilian life, they often retained their military title. In the Forest Service we had majors, colonels, even once in awhile a captain. But I’m glad those going into civilian life following World War II, did not choose to retain their military title. I’m thinking especially in the Forest Service it can cause confusion. And I wasn’t really being facetious about asking to be called ranger, because in my discussion with Kelly, he wanted some idea what I would like to have as an assignment, and I told him that

since I’d been away from the Forest Service for almost four years, I’d like to be assigned as a district ranger and have an opportunity to get my feet on the ground. Some people after they had served in the military felt that they should have a higher position than they had when they left, but I didn’t feel that way. He offered me a district ranger’s job on the Modoc National Forest, where I had left four years previously as acting supervisor, but was glad to have the opportunity.

However, the California Region was trying an experiment, and they consolidated three ranger districts and part of another, and made one big ranger district that was to be my assignment. It included all the Warner Mountains and the Devil’s Garden that I had been ranger on previously. The idea was to have larger administrative units and then give the ranger more help. I was given an associate ranger, a fire control staff man, an assistant ranger, and an improvement foreman.

So, I reported December 1, 1945 at Cedarville, California, as my headquarters. Floyd Iverson had just previously had this

position and was promoted to supervisor of the Inyo Forest upon the retirement of Roy Booth. So, Floyd had followed me from one place to another, and now I was gonna follow him.

The forest didn't have a range staff man assigned. So, in addition to being district ranger, I substituted for the staff man, too. Arid when it came to allocating range improvement funds to the various districts, it's obvious which district got most of the money.

My time as ranger was relatively short, but there were a couple of incidents other than routine that I remember. In July of '46, I received a report of a forest fire west of Cedar Pass about midnight. I drove over to the fire and saw that two or three acres had burned, but it didn't appear to be spreading at that time. I was a little bewildered. When I got to the edge of the fire, I found a young boy really working, all by himself, building fire line. I thought, "That's good volunteer labor." The lad had seen the fire from his ranch home and had gone up to do what he could. I asked him how old he was, and he said he was twelve. So, then I was in a quandary. You're not supposed to accept gratuitous labor; still you're not supposed to have anybody on the payroll under the age of eighteen. There was a conflict in our regulations, and I needed the boy, so I put him on the payroll, and we worked together 'til about daylight and had the fire controlled. Perhaps he's one of the youngest people to ever have received a U. S. government check for labor. They never knew what his age was, as far as I was concerned.

Another occasion at the same locality—at the Cedar Pass campground, the new supervisor, who I was not especially fond of, caught me cleaning a rest room at six o'clock one night. And he said, "That's sub-caliber work for a district ranger."

And I replied that "I'm a district ranger from eight in the morning 'til five at night, unless there's emergencies." This wasn't exactly emergency, but on my time off I could do anything I wanted to, regardless of caliber.

I would like to refer back regarding the winter at Cedarville in 1946, especially pertaining to some of the local people. Some of the most severe days, I would sit around the Valley Mercantile store, pot-bellied stove, and listen to the old timers. No matter how severe the weather at that time seemed, it never compared at all with the winter of '89 and '90. That must have really been a bad one. Deep snow, extreme cold, and with those two combinations, of course, the lack of hay or forage for livestock that resulted in heavy losses, especially cattle. During these sessions, too, if the subject of Indians ever came up, invariably the massacre of Pete and John Laxaque's father would come into the discussion. Mr. Laxaque was a victim in one of the later Indian uprisings and was killed at High Rock, which is near the Washoe-Humboldt County line. While I was in Cedarville, John was a prominent sheep man, and run sheep on the national forest land on a southern unit of the Warner Mountains. Pete had the telephone exchange, and about that time, went into politics, being elected Modoc County Supervisor. Just prior to movin' to Cedarville, Rural Electrification Agency brought a line to the valley, but many ranchers still did not take the service. Also, the telephone system was meager, and in general ended at Pete's exchange. After eight o'clock at night, there was no telephone communication to the valley, except what might come over the Forest Service line to the ranger station.

Perhaps the most prominent figure in politics ever to live in Surprise Valley was Butch Powers—at that time, a [state] senator. He had a good ranch down near Eagleville and

run cattle on BLM lands over into Washoe County. He did not have a permit on national forest lands, but we got acquainted. He always seemed to be courteous, friendly, but always in a hurry. Later he became lieutenant governor of the state of California.

Our ranger dwelling was one of the more recent structures in Cedarville, and when the local people would come to call on us socially, it seemed invariably, soon after their arrival, they asked the way to the bathroom. This seemed rather strange, but then we realized the residence had the only inside plumbing in the valley [laughs], and it was quite a novelty. So, as a part of a social call was to make an inspection of the facilities, which by present day standards, were not still of utmost modern design. The hot water was heated by a coil in the wood-burning cook stove, and I wanted to go ultra-modern, and put in an electric hot water heater since there then was power to the station. But the supervisor's office couldn't provide from their budget a hundred dollars. So, I offered to put in the electric hot water heater at my own expense, but if I was transferred, I'd wanna take it with me. This wasn't acceptable, but by hook or crook, they did scrape up enough money for such an elaborate installation. But when the Forest Service plumber hooked it up, he crossed the pipes some way so that all the water in the sprinkling system for the lawn was heated. And I had to pay the bill, which was almost the cost of the hot water heater.

Cedarville had a Rotary Club, just barely enough members to hold a chapter. I joined the club and enjoyed associating with the people, especially ranchers. In order to have enough members, there were cattlemen, sheepmen, hay growers, beekeepers, even alfalfa-hay seed producers, to make out the various classifications.

When I was transferred from Cedarville to Santa Barbara, I maintained my membership at Cedarville, so that they would still meet their quota for a chapter. And all the time at Santa Barbara, I attended as a visitor to maintain our club at Cedarville.

Twenty years later, I had the pleasure of accompanying Tom Smith (that's Alfred Merritt Smith, former Nevada state engineer) who had lived as a youth in Surprise Valley. He'd never been back since, so I enjoyed taking him and hearing about some of the earlier history. It seems his mother was a school teacher at Lake City, which is just a few miles north of Cedarville or south of Fort Bidwell. Fort Bidwell, at the time Tom was there, had a contingent of the U. S. Army because of some Indian uprising at that time. The soldiers built a road from Surprise Valley over to Goose Lake, and there are still remnants of that road that's visible. Tom and I went to the Bidwell cemetery, and some of the headstones had names that were acquaintances of Tom when he was a young lad.

Soon after that I was slated for a promotion to the assistant supervisor at the Santa Barbara Forest. This previous supervisor I mentioned, tried to withhold the transfer. He had nothing in particular against me. He wasn't on the forest long enough to really make an appraisal, but maybe (to be conceited) he didn't want to lose me. Anyway, on September 1, I went to the Los Padres National Forest with headquarters at Santa Barbara.

It's a delightful place to live. But the forest didn't especially appeal. It seems to be huge brush fields with a great fire hazard and lots of people as a fire risk. I was only there til the following April, but there were several incidents that I remember during that time. One was in the late winter. We were taking applications for grazing permits, and one application was from a woman who lived



nearby that didn't have a previous permit, but I looked up in the records and she applied each year—and they disapproved each year. And then she wrote to her congressman in protest, and then through much red tape, through the channels the disapproval was upheld. I wrote the standard, bureaucratic letter of disapproval one day, but I didn't sign it or put it in the mail. Thought I'd sleep on it. The next morning I tore the letter up and decided I'd go and see the woman. To my surprise, she wasn't at all what I'd thought she'd be. I expected to find a somewhat illiterate hillbilly that maybe had some goats [laughs] who wanted to run on the forest. But to my surprise, she had been personal secretary for David Starr Jordan, world-renowned biologist and educator. In fact at one time, he was chancellor of the undergraduate school at Stanford. So, with her background, we had a very pleasant afternoon talking about natural history. During our discussion, I found out she didn't have any cattle and really not a ranch that was dependent on the forest for range. Apparently, her applications were just made for recognition. I gave her back her application and told her if she ever got some cattle and needed a permit, why, to submit it. As far as I know that's the last we ever heard of her.

I use this a little as an illustration. I think it's a good rule when a difficult letter has to be written, not to send it the same day that it's written. Think it over, and maybe it won't be necessary the next day to have to send it. Another good rule is to know the people, if you possibly can, who you're writing letters to.

In March of '47, we realized on the forest that our fire prevention and pre-suppression funds were going to be drastically reduced, even though they had assigned an airplane to us (that I'd previously mentioned, when we were using it for detection, when we saw the condor soaring above the forest). So, with the curtailment of

funds for fire crews, we decided it'd be necessary to get a regional forester's closure on about a million acres of the Los Padres National Forest. The need was further accentuated because of deer hunting season being traditionally in August. If we were short of funds, we just couldn't take a chance for deer hunters to be out during part of the most hazardous time.

The supervisor was Andy Brenneis, who I mentioned previously as a co-author of the wildlife management handbook. He asked me to go to the Arroyo Grande Sportsmen's Club to explain the reasons that it was necessary to make the forest closure. They were sort of a vociferous, rabid group, and it was, a hot subject. I talked to them for about forty-five minutes explaining fire behavior, and the dangers, and the result of fires, and upon the termination of my talk, a big, rough-speaking sportsman got up and demanded the floor, and said, "I recommend we plant striped bass in Morro Bay." [Laughs.] I thought he was getting up to take off m'hide, and he had entirely changed the subject. There was no discussion about fire closure. They just apparently accepted it and forgot about it.

During my stay in Santa Barbara, I became acquainted with Major [Max C.] Fleischmann, who had made a very generous donation for the construction of a natural history museum in Santa Barbara. It was a beautiful site and structure, and soon after completion, was supplied with excellent exhibits. And the Major took a sort of a pleasure in puttering around in the museum, and I've always been curious to see the museum, so we got acquainted.

#### **LIFE AMONG THE MORMONS OR A TRANSFER TO THE UINTA-LASAL NATIONAL FOREST**

In April of that year, '47, I was promoted to supervisor of the Uinta-LaSal National

Forest. There were several precedents set on this assignment. Andy Brenneis wasn't noted for having his subordinates promoted. And the Uinta-Sal is in Intermountain region, and they were not accustomed to having someone come from outside the region to be a forest supervisor. You might say there was still some friction between the California Region and the Intermountain Region because of their issue regarding the Toiyabe and Mono National Forests, in which the Intermountain Region won the Mono from Region Five.

I'd heard that a new forest supervisor would have less trouble if he relied on his administrative assistant, somewhat the way new Naval officers rely on chief petty officers. Hut upon my arrival at Provo, the headquarters, I was startled first to find out that the administrative assistant was in the hospital to have a tumor removed from his brain. I was also startled to find out that the LaSal National Forest, as an entity, was just attached to the Uinta, so we had to keep two separate sets of books. I learned that there were only three of us in the entire forest personnel who were not Mormons. About two of the devout members of the church; one was president of the Utah Cattlemen's Association, and the other was president of the Utah Woolgrowers. I learned further that Al Scorp was the biggest grazing permittee in the entire national forest system. He run 5,000 head on the Monticello district of the LaSal. I'd had about enough shocks, but I did ask to see the previous year's fire plan. And they explained to me, oh, they didn't have a fire plan. All we do is we put on one guard during the summer. No lookouts [laughs]. Of course, compared to California forests, the Utah forests are not serious in fire occurrence or area burn. But they were quite prevention conscious. That fall, early October, the lightning struck a snag right east of Provo, and people on Main

Street could look up and see the fire. It was the elevation of about 10,000 feet. So, I gave instructions to the ranger to let it burn out, trying to carry out my lifelong theory that it's good to let some heavy fuels burn. But after the public reporting the fire for two or three days, and then becoming indignant because we weren't takin' action on it (and an item to that effect was the subject of an editorial in the local newspaper), I finally changed instructions and they went up and put the fire out—really as a public relations matter, rather than for protection of resources.

Fire prevention is a difficult thing for the public to understand. Because at the same time we were burning sagebrush thirty miles east of Provo, (fortunately the smoke was not visible from the town) we were clearing land preparing for reseeding by burning. "Smoky Bear's" had his place, but it's hard for them (the public) to understand between using fire as a land-clearing tool in some cases, and then considering the great destruction that fires cause in other places.

My daughter, our daughter Meredith was born October 28, in LDS Hospital in Salt Lake City. She was a pretty baby and grew up to be a beautiful woman, has lived in Reno most of her life and now is Mrs. Ron Bath.

Soon after this, in November, Congressman [Frank A.] Barrett had a series of hearings in the West to let livestockmen tell of their grievances in regard to Forest Service administration of range. One of the hearings was held in Salt Lake City. (Incidentally, one just prior to that one was held in Ely, Nevada.) So, the regional office was very concerned, of course, and told the supervisors all to attend and bring their files so that in interrogation they could explain their position. I was so new on the forest that I decided not to bring any file material because I didn't think I could find it [laughs] if I had it. I expected to be

harassed by Charlie Redd, who was a cattle permittee on the LaSal unit of the Uinta. The ranger that year had reduced his numbers to a hundred head of cattle. And then he appealed to me, and I rode the range with him to try to explain the justification of it, and I upheld the action of the district ranger. Mr. Redd inferred that he was gonna tell Congressman Barrett at the hearing about my arbitrary behavior. Congressman Barrett allowed each one to give only ten minutes testimony. And Mr. Redd started in with his grievances. He run sheep on several national forests in Colorado and went into considerable detail about how he had been mistreated there; got so wound up on that issue that he completed his ten minutes and never had a chance to get to me. As a coincidence, though, with the presidents of the two state associations being permittees on the Uinta, I was questioned more than any others, but it happened that they were general questions and I knew the answers. Congressman Barrett did try to get me to say that all the overgrazed conditions are due to livestock, and I refused to take the bait and explained that it's a combination of the big game, elk, deer, and sheep and cattle that causes the unsatisfactory grazing conditions.

Continuing at Provo and the Uinta Forest in 1947, I'd like to present for the Archives, a history of the Uinta National Forest titled *Utah's First Forrest, First Seventy-five Years*. I was the tenth forest supervisor, and of the twelve, up 'til 1973, five of them had either served previously in Nevada or had gone from Utah to Nevada, as I did a little later.

One of my close friends at Provo was Dr. Vasco Tanner, head of the biology department at Brigham Young University. At that time, the university had about oh, five to six thousand students, and since that time has grown to, I believe, over 20,000. Dr. Tanner was an energetic conservationist, as were quite a few

people in Provo. Dr. Tanner presented to me a book titled *Fading Trails* with an autograph, which copy I'd like to present to the Archives.

Dr. Tanner was quite interested in the vertebrates of Nevada and published several papers, especially in regard to warm water fish. The *Fading Trails*, published in 1942, to me was somewhat prophetic, in that discussion of diminishing and vanishing species certainly is more pronounced now than it was at that time.

He also did some pioneer research in publications on entymology in Nevada. So, I present for the Archives a reprint from the *Great Basin Naturalist*, about a new genera of weevil that he discovered and classified from a collection he made in Clark County in 1941.

During August of 1947, the great forest fires at Silver Creek in Alpine County and Boca fire west of Verdi, were both burning simultaneously. And I offered my services to the regional forester, Ben Rice, to come over and help on the fires if needed, as I had previous experience on this type of vegetation and terrain. As this country now was in Region Four or Intermountain Region, many of their people had not had previous experience on fires in the Sierra. But Mr. Rice thanked me and said that since I was the principal fire-crew member on the Uinta, I'd better stay home.

At that time, Mark Anderson was mayor of Provo and owned the Roberts Hotel. He was previously with the Forest Service, and in 1919 he and W. T. Jardine wrote a U. S. Department of Agriculture bulletin 790, titled "Range Management on National Forests." Today, this is a historical document. Mark was a good botanist, and in later years became quite a good artist. As one of my possessions, I cherish a chalk sketch that he made of a Rocky Mountain mule deer buck, jumping a log with the background of the sandstone cliffs of

the LaSal National Forest. He was interested in winter sports. There was no winter sport area in the vicinity of Provo—the nearest one being Alta on the Wasatch, southeast of Salt Lake City. And, of course, with his forest and range background, he realized the importance of protection of watersheds.

The steep Wasatch slope immediately east of Provo and adjacent to BYU had caused serious floods, even rock-mud flows into the town. So, he and Dr. Tanner were very concerned about restoration watersheds, and the livestock were removed from this face as a protective measure.

Provo Canyon itself was not within the national forest boundary, so Dr. Tanner and Mark Anderson and many others in Provo organized sorta in an ad hoc manner to extend the national forest boundary to include these lands. They wanted to extend it even farther east to include Deer Creek Reservoir watershed which supplied Salt Lake City with domestic water. But the livestockmen at Heber became alarmed and objected. So, by compromise, just a portion of Provo Canyon in Utah County was included within the Uinta National Forest by executive order.

Senator Arthur Watkins carried the program in Washington, and in 1949, the president signed the order. Might explain something unique to Nevada and Utah in regard to creation of national forests or extension of their boundaries. In 1897, the Organic Act gave the president authority to create national forests by his own order. In 1907, Teddy Roosevelt had created so many national forests that some of the western states became alarmed, and Congress passed an act that required the creation or modification of national forest boundaries by act of Congress rather than by executive order, with the exception of Nevada and Utah, which to this day still can have boundary changes or

creations by act of the president. This would be an interesting subject to do some research on to determine why those two states were exceptions. I suspect it was partly because the stockmen using the high summer range adjacent to their ranches wanted to exclude the nomad sheepmen. I'll get into this a little later when we talk about the early days on the Toiyabe.

Mayor Anderson had a rather unusual woman as head of the Provo Recreation Department. She had an airplane and flew it herself. The first and only time I've ever flown with a woman pilot was [with] Jessie Scofield. We flew 'round some of the higher mountain peaks in the wintertime looking for good prospective winter sports areas.

Well, soon after arriving in Provo, ward workers for LDS would call to see if we wouldn't be interested in joining the church. They seemed to make a scheduled practice of calling about six in the evening, almost once a week. And finally, I told 'em that Masonry was my religion, and they never came back. I noted the Forest Service employees (all but three of which were Mormon) were hard, energetic workers for us but also worked long, strenuous hours after five o'clock for the church. One ranger told me that the church had first priority, his family second, and the Forest Service third. This never had occurred to me that priorities would be set. But I did tell him if he worked harder for the Forest Service, it might benefit both his family and the church. [How did he respond to that?] Rather haughty and indignant. He wasn't a career man and left the Forest Service soon after, and I lost trace of him.

Might mention this Provo Canyon addition included spectacular mountainous country. There was one waterfall almost two hundred feet high, rugged limestone cliffs, a Girl Scout camp up the south fork, also the

source of Provo City water supply. I remember one day in the summer, I went up to the Girl Scout camp to see how they were getting along and killed two rattlesnakes on my way. So, when I arrived, I told the woman in charge there were snakes. And she says, "Oh yes, I know. We are killing about one a day." Just then, the girls shouted and had got another one. Fortunately, Dr. Tanner's daughter was at the camp, and she grew up knowing about snakes.

The Elks Club at Provo helped develop the Girl Scout camp. The Mormons had very little to do with the Elks. While at the same time, the Provo Rotary Club, which I became a member of, developed a picnic area in the main Provo Canyon, as a project. But it seemed that the Rotary Club was a sort of a social get-together organization for both LDS and us gentiles. And we'd go up and work at the camp, and non-Mormons would drink beer, and the Mormons would drink their soda pop. Referring back to the Girl Scouts, the Mormon Church didn't seem to be much interested in Girl Scouts, but they did sponsor many Boy Scout troops.

When I arrived at Provo as supervisor, I found an unusual interpretation of Forest Service regulations, whereby the Forest Service donated timber to the LDS churches for construction of their buildings. I thought this was somewhat strange and asked some of the staff if that's a practice—do they give timber to the Catholics, or the Baptists, or the Methodists? They said, "Oh, no. It just goes to *The Church*" [laughs]. I checked with the regional forester about this interpretation of the manual, and soon after that a directive came out that it wasn't proper to donate timber to any church. It could be bought at cost, but not donation.

Each July it's tradition for BYU to sponsor a climb to the top of Timpanogos.

This is a mountain just northeast of Provo with a summit elevation of 11,750 feet. It's a good, hard half-day climb from Aspen Grove, beginning about an elevation of 8,000. This has been a tradition for over fifty years. I climbed it on two different occasions when there were about 2,000 climbers on the trail. I remember the second trip, Charles Waggoner, a high executive with United States Steel assigned to the Geneva Steel plant, climbed with me. He was a dynamic, hard-driving executive, but mountain climbing wasn't one of his best abilities. And when we reached the top, he said, "I forgot about everything in the world, my family, my job, my finances, everything except only one desire, and that is to get on the top of this damn mountain."

While the LaSal Forest was attached to the Uinta, '47'48, Charlie Steen, later to come to Nevada, was prospecting for uranium, specially on the Monticello district of the forest. I remember one time our ranger loaned him a horse to help him in his search. Incidentally, speaking of rare materials, the LaSal unit extended over into Colorado, and near that portion of the forest, radium was discovered, samples of which went to Madame Curie for identification and study.

In 1948, a dentist in Arizona developed a technique of making pellets for reseeding range. The pellets were composed of soil, a little fertilizer, and some grass seed. After the sites were prepared, then the pellets were dropped from an airplane on the theory that it would give them a good start towards range reseeding. The Bureau of Land Management had adopted the system and reseeded considerable range in the southwest with the pellets. But the Forest Service was reluctant to try the method. Between the dentist and Congress, the Forest Service was persuaded to try it. Our forest was selected as the guinea



pig. We prepared about five thousand acres of sagebrush land, and some pinyon, for reseeding. Then they made the pellets and dropped 'em, and then we had controls and some research to determine the success. In the end, there was only about ten percent of the seeds in the pellets that germinated. In principle, it sounds good, but the seed suffered when it was in pellet form, both by compression and some mildew. After the results of our study was made known, I never heard of this process later.

The Uinta National Forest lands were very productive but had been severely overgrazed by too many sheep and cattle for at least fifty years. This required both reduction in numbers and shortening of seasons. And some of the meetings with the stockmen were long, drawn out affairs. They'd last 'til almost two o'clock in the morning. And then the ranchers would get home and think of somethin' else, and then call us in the rest of the night [laughs] to discuss it further. Some of the meetings, the stockmen became so irate that they got into personalities. Several of the other forest supervisors would get up and leave the meetings. The regional forester backed 'em up and said that it isn't necessary to take personal abuse. But I never did leave. I guess maybe my hide was a little thicker. But I felt that if I left, the next time we have a meeting it'll be more difficult. And also I might have been a little curious as to see what they'd say next.

One of the sheepmen, named Moroni Smith, is the only person that caused me to become thin-skinned. When he didn't like my decisions, he'd (at a meeting) call me a commie." The only time I ever lost my temper with a forest user was on such an occasion. And I told him that I'd put up my war record against his draft dodging son's! It rather startled him, and he mildly apologized.

One rancher named Billy Jones had about two hundred head of cattle—and he was a dilemma to his neighbors. His cattle always seemed to stray from his lands onto those of others. Either the fence would break down, or someone had left the gates open and his traits also existed on national forest lands. It seemed that he had too many cattle according to his permit; they were on before the opening of the season, and they were on long after the close of the grazing season. So, I thought if we're gonna have range management, one of the first things to do is to control trespass. So looking into the record, he was a chronic trespasser on national forest ranges, not only his own allotment, but adjacent grazing allotments held by his neighbors. I gave him a warning that we'd take drastic action if he didn't change his ways, and there wasn't any evidence of change. So, I suspended his term permit (that is one with a preference) and issued him a temporary permit until he showed that he would comply with the terms of his permit.

This still did not solve the problem. So the next year, I refused to approve a permit for him. Well, this brought then, an appeal to the regional forester of my "malicious, arbitrary action." I forgot to mention Billy had a violent temper to go along with his misdeeds.

So, they had a hearing in our office at Provo in which a representative of the regional forester attended—and the secretary brought a recorder. This was my first experience with taping proceedings. Billy, during the hearing, went into a rage and jumped up and threw his hat on the floor and was stomping on it. And just at that time, there was a flash of lightning that we could see out the window, and then a loud roar of thunder, and then hail on a tin roof [chuckles] immediately outside the window. And all of this with Billy's ravings went on the tape (laughs). Since that, I've searched



for that tape and would like to have it for the Archives, but it's disappeared. Anyway, the regional office upheld my action, and Billy didn't have a permit anymore. But his cattle were still out there. So, we impounded thirty-five head of cattle.

I might back up just a little. When I issued him the temporary permit—when he called at the office—he threatened me. He said that sometime he'd catch me out on the range, and I wouldn't come back. In fact, he came around to my side of the desk, and the only defense that I could get my hands on was an inkwell, but it wasn't necessary to use it.

Anyway, after we impounded the cattle, I had to go and hunt for Billy to tell him that we had his cattle, and he could redeem them. I persuaded the Duchesne County sheriff to accompany me and go and hunt for Billy. Incidentally, this was the only time I wore the pine tree badge for protection. I figured if he shot me, he couldn't plead mistaken identity, was never armed and have an abhorrence for "badge happy", pistol packing rangers. When we reached the Duchesne-Wasatch county line, the sheriff turned back, and I had to go on by myself. In about an hour, I found Billy at a corral and told him that we'd impounded his cattle. He very meekly said, "What can I do to get 'em back?" And I told him if he would pay the cost of rounding 'em up, and for the feed that they have eaten while in the corral, he could have his cattle. Well, he asked how much that was— and I said it was seventy dollars—and still docile, offered to pay me in cash. I told him I was prohibited from taking cash, but if he would go with me down to the post office at Soldier Summit and buy a money order, we'd send it into the regional fiscal agent, and he could have his cattle. I thought this red tape would really cause him to blow up, but he meekly drove ahead, and I followed him down to the post office. He

bought the money order, and we sent it. He took his cattle, sold his ranch, and we never heard anything more about him.

The Wasatch front is rather notorious for avalanches. Frequently an avalanche would cover the rugged canyon down near Nephi named Santiquine Canyon, it seemed like every year an avalanche would come and break down a bridge across a small drainage in the canyon. After repairing the bridge several times—not being an engineer though—I designed one that wouldn't be bothered, by just simply skidding the deck off from over the draw onto solid land and away from where the avalanche habitually dropped the great load of rock and snow.

Campgrounds on the Uinta Forest had to be designed somewhat different than ordinary national forest campgrounds, because it was traditional for family reunions to be held out in the woods for a large midday picnic. Of course, Utah families were large, and it was customary to have a reunion about once a year. There'd quite often be between one hundred and two hundred people, adults and with all the children. They needed a long table with, of course, benches. And then the food that was put on the table would stimulate the appetite of anyone. Of course, those picnics were very "dry," but still there was a lot of jovial, friendly renewal of seeing relatives again, many of whom they hadn't seen for a year when they had the previous picnic.

In February in 1948, the Region Four or the Intermountain Region had a ranger school somewhat similar to that I mentioned for the California region, and they asked me to be the instructor in use of aerial photographs. This was the first time in this region that they had attempted to give such training. The ranger school was at Tony Grove east of Logan, Utah. I tried to give the students some preliminaries in photogrammetry, determination of scale,

and then interpretation of the photos, especially for type mapping. Ironically, that was the last time that the ranger school was held. The ranger school near Quincy in 1938 was the last one. So, then we move over to another region, and I participate in its finale.

I think it's a mistake to have discontinued those schools. As a substitute, they attempted to give the newly appointed professional foresters and range examiners an orientation session which consisted of about a day meeting, lectures, and then a field trip in a bus. I don't think this was a good alternative, because at the old-type ranger school the trainees were instructed in some woods or forest techniques that they didn't learn at any other time. There's a gap between the instructions in forest schools and instruction given now by the Forest Service. The forest schools assume that simple surveying, that is, the use of just compass and pacing or type mapping, will be learned on the job in the Forest Service, and at the same time, the Forest Service assumes that the students in the forest schools learn certain techniques, this also applies to plant identification.

The same month at Tony Grove, they had a census of elk on the Nebo Mountains, a district of the Uinta Forest. At the end of each year, we were required to make an annual wildlife report, and part of it was a tabulation giving an estimate of the population of various wildlife species, all the way from fur-bearers up through big game. Soon after my arrival on the Uinta, I realized there was an elk herd of considerable proportions, judging by the sign and evident browsing, grazing by the elk. So, in our annual report, I raised the estimate of elk up to 2,000, which was just about double of that shown in previous reports. The regional office was very skeptical of this. They didn't feel that it was possible, according to the breeding potential of an

elk herd, to reach such a large figure. That winter was quite severe, and heavy snows in the higher country drove the elk down to the edge of the valleys, so they were very conspicuous. And so the regional office had a census, counting elk from an airplane. And they counted nineteen hundred and ninety-three. So, I later on, jibbed 'em a little and told them I couldn't figure out what happened to those other seven elk [laughs].

In December, 1949, Ben Rice, regional forester, died. And within a month, C. J. Olsen, known by all as "Chet," was appointed regional forester. He had just previously been assistant regional forester in charge of information, education. A few years prior to that, he was supervisor of the Nevada National Forest headquartered at Ely. Soon after his appointment, he asked me if I would transfer from the Uinta Forest to the regional office as an assistant in range management. I wasn't too eager to leave Provo, but I had another motive and was willing to accept the transfer if I would then be considered for the supervisor of the Toiyabe National Forest, because Clarence Favre was expected to ask for retirement within a year. This was agreeable to Chet. So we moved from Provo to Ogden. I didn't really know how many friends, even among the Mormons, that we had at Provo until our farewell. Even cattle and sheepmen hated to, I guess, see me leave. At least the president of the Cattle Association wanted to be sure that I was willing to transfer.

### **"A DECADE OF INSPECTIONS"**

Soon after moving to Ogden, they asked me to go to Ely, Nevada to attend a hearing conducted by Senator Pat McCarran in regard to the creation of another Bureau of Land Management district, especially in Nye County. There was long discussion

and arguments. And the Forest Service only casually came into the issues.

The subject of the hearings, in January of 1950, really pertained strictly to public domain lands that had not yet been included in a formal ELM district. Much of Nye County was just, you might say, wide open without administration, as all of the public domain was prior to the passage of the Taylor Act. And of course, there were ranchers that were very skeptical or apprehensive about a government agency administering their range lands. It was the last, really remnant of the unallocated public domain left in Nevada. In fact, the state of Alaska was about the only other public domain lands that wasn't under some form of administration. There were others at the hearing that favored the district being formed, especially among sportsmen and conservationists. I believe they impressed Senator McCarran sufficiently, because soon after that the Sixth District was formally designated for Nevada. I was more as just an observer, but they wanted me to be there anyway.

Beginning with 1950, there was a decade of inspections. The Washington office inspected the region, and the regional office inspected forests, and the forest supervisor was supposed to inspect the rangers. There were general integrating inspections; that is, where all functions were analyzed and attempts made to see how the balance existed. Then there were functional inspections where the inspector looked at only one activity. And then there were audits, internal and external audits. It seemed by the time a unit was inspected and had accomplished the correction of deficiencies, it was time for another inspection.

The summer of '50, I made a range functional inspection of Dixie National Forest, by myself. And then later on, the head of range

management, Merle Varner, and I made a grazing inspection of the Caribou National Forest in Idaho, a little bit in Utah. And then also that summer, Floyd Godden and I made a general, integrating inspection of the Fish Lake National Forest whose headquarters was at Richfield, Utah. Also, during that summer, I went to the Payette National Forest to give a training Session on a new range allotment analysis procedure which was supplementing or replacing the old range survey methods that I have previously discussed.

I might say in connection with this inspection program, they appointed me on the inspection committee, and the first part of the assignment was to develop an outline for inspectors to use as to what to look for when they were in the field. Of course, the condition of the resource for a particular function, such as timber, or range, or wildlife habitat, or recreation and lands, the campgrounds, was of foremost importance. The public reaction to the use of the various resources also was given considerable attention.

To me, a good inspection is one that not only finds deficiencies or might point out faults, but as well, recognizes good accomplishments that the unit has shown.

Well, I might mention as a sample, the only time I was an inspector of an integrating inspection, was on the Fish Lake where almost all, of the inspection of all of the resources took place out in the field. There was very little time spent in the office, except upon the completion when we went back to our office—seemed like we spent a month writing up the report. But for an integrating inspection, it was supposed to determine if there was a lack of balance between the different resources. Some administrators would ride a hobby. For example, to develop elaborate campgrounds and have a nice pole fence around the campground, but at the

same time, may neglect range improvements on a grazing allotment. Of course, fire always came into the picture too—the preparedness, and the planning, and the suppression action.

I mentioned Mr. Godden. He was the chief of fire control in regional office, and I assume it's been detected by now that my experience included quite a bit of fire. So, we analyzed the organization as far as their ability to cope with forest fires that affect all of the other resources: watershed, timber and range, wildlife habitat.

The first week in September in 1950, there was a fire on the Toiyabe in the Dog Valley area; since it was Labor Day, it was difficult to find volunteers in the regional office to go to the fire as overhead. I volunteered gladly for several reasons. I wanted to get back and see some of my favorite country, but also I wanted to size up the personnel on the Toiyabe, anticipating (or at least having hope) that I might come to the Toiyabe as supervisor in the not too distant future.

Gil Doll was the assistant supervisor and sort of headed up fire control work on the Toiyabe. He assigned me a sector of line at the highest, rockiest point on the fire. I don't know whether he thought he might send me up there where I would be out of the way, or whether it was a challenge to see whether I could get up there. It certainly wasn't the hottest sector of the fire line, but I did have an opportunity to meet some very capable and fine people that I was to work with later. But also, one individual was transferred before I came to the forest, and I don't believe it's necessary to explain what I did in the regional office to effectuate that.

In the same month, the state engineers office hosted the Nevada Water Conference. And I was invited to attend and present a short paper on range reseeding, as it's done on national forest lands in the Intermountain

Region. This meeting Hugh Shamberger presided—had an opportunity to meet him and Tom Smith, the state engineer. In my talk about reseeding, I made rather a positive statement that crested wheat should always be drilled; it wasn't adaptable for broadcast seeding. As a coincidence, the same day there was an item in the *Reno Gazette* reporting on a reseeding project that the Plumas National Forest was conducting on a burned area west of Doyle to Milford, in which they had broadcast crested wheat from an airplane. There was later techniques for, in some cases, to reseed without drilling—that is crested wheat. It depended principally on site preparation and the climate. But after the intense rains in late November and December, which caused the Truckee to overflow its banks, the same storm washed most of the crested wheat that the Plumas had sowed on the burn, so you could have collected a lot of it in the culverts under 395.

Hugh Shamberger presided at the Water Conference in 1950 in his usual dignified but friendly manner. The subjects were interesting and educational, and I had the pleasure of attending about fifteen of the subsequent conferences. I say interesting and educational, except [in] my annual report of the Forest Service, but at least it was always brief. The banquets, too, were always outstanding where all of those in attendance had a pleasant evening with good, folksy entertainment.

I had an opportunity then, to come back to Reno again and observe the damage caused by the floods and to some extent, the origin in the headwaters of the Truckee River, and at the same time, attended the Nevada Farm Bureau meeting. This was the first week in December, and it was the last meeting that Florence Bovett served as secretary of the bureau. She and Cecil Creel both repeatedly made the comment, "It's later than you think."

That same month I attended the state cattlemen's meeting at Winnemucca at the time that Fred Dressler was elected president of the association. I should correct that, too, and not say cattlemen; it's the Nevada Cattle Association. It's the only state that has an association of cattle rather than cattlemen. At this meeting also, I became acquainted with Bill Wright, a prominent rancher from Elko County, who was somewhat adverse to national forests and would've liked to see the lands pass into private ownership. We later became friends even though we had differences of opinion.

---

## ON THE TOIYABE NATIONAL FOREST, 1951-1965

In December of 1950, Clarence Favre retired, and I had the pleasure of representing the regional forester at his retirement party. And it looked like things were going in my favor towards being transferred to the Toiyabe as supervisor, which was the height of my ambition. In the first place, in my opinion, the position of forest supervisor is the best job in the Forest Service. There's only three other positions in which you're not an assistant to someone: the chief, the regional forester, the forest supervisor, and ranger are what you might say line officers. All the others are staff men, and I had aspiration to be closer to the woods and become acquainted with the people in the locality. Of course, the chief's office was out of question, but that would be too remote for me to consider. I had been a district ranger and enjoyed that as the good life, but it's a little more prestige and better salary to be a supervisor. Also, my choice was to be supervisor of Toiyabe because of the country. After a person's worked in the Sierra, they'll feel that there's no other place quite as good. I have worked in the Rocky

Mountains, Coast Range, and the Cascades, but still the Sierra Nevada has a charm, a variety, a kind of terrain and vegetation not found anywhere else. Of course, my chosen people were people of western Nevada and eastern California. And also, I don't know of any place that has a better climate than Reno or the surrounding area of western Nevada and eastern California.

Chet Olsen was perfectly willing to have me become the Toiyabe supervisor, but the Washington office caused some difficulty. They preferred that I go to be supervisor of the Boise National Forest—a larger forest in work load, not in area—which would have been a promotion. But I didn't want to go to Boise, and finally a memo signed by the deputy chief, Howard Hopkins (who was the man who I was rude to on the Mt. Hough fire way back in 1931), said that they wanted a signed statement from me that I understood that it would not be a promotion to go to the Toiyabe and that the chance of getting a promotion was very remote. I sent the statement and then the eleventh of January, 1951, was transferred



to the Toiyabe. It was the largest national forest with a net in excess of three million acres, even though at that time the Santa Rosa district was transferred to the Humboldt National Forest. I might qualify this "largest." I'm always a little reluctant to say anything is the largest, or the oldest, or the tallest. There are two national forests in Alaska, but each one of them is more of a sub-region than that of an organized national forest.

Upon arriving in Reno, I had the pleasure of renewing acquaintance with some people that I'd known for twenty years previously. And several programs pending fit in very nicely with some of the objectives I had in mind. For example, a development of Slide Mountain as a winter sports area. At that time there were about six thousand hotel and motel rooms in Reno, and they run fifty to sixty percent occupancy during the winter. So the Chamber of Commerce businessmen were anxious to have a winter sports area to help business, and I was anxious that it be developed on national forest land. There was one impediment that hadn't been resolved yet. Washoe County was in the process of condemning two hundred and fifty acres of Mr. [LaVere] Redfield's land for the Ski Bowl and access roads. And he had appealed it to the state supreme court, not that he was opposed to the value of the land that the county had placed, but just the principle that you couldn't condemn a man's land for recreation.

Also at that very time, the Reno Chamber of Commerce and others were trying to reactivate Stead Air Base, which had closed down, oh, four or five years previously and was adverse to Reno economy. I was interested in getting Stead reactivated as a source of manpower in case of emergencies, especially for fire suppression. There was no cooperative, organized source of men to suppress fires in this locality after the CCC

camps discontinued early in World War II. So in February, I toured the mountains in deep snow conditions with inspectors from the Strategic Air Command to size up the area for training of survival and rescue, which had been conducted in Fort Carson in Colorado, but they were overcrowded, and they were looking for a new location. So, to the pleasure of both the city and myself, they chose to come to Reno and reactivate Stead.

Early in the fire season, there was a fire at Ophir Creek (that's about halfway between here and Carson City) that burned about a hundred and sixty acres of prime watershed and a sparse stand of yellow pine timber. The following year, Stead people helped replant it. One thing I remember about the fire was the eagerness of the local people to cooperate, even to, in one case, extreme. One rancher bought a bushel basket full of liquor for the firefighters (laughs). He didn't want 'em to be thirsty, and it was all choice brands. I saw this and asked him to get that out of sight and hide it. Afterwards, I wondered what happened to it.

There was another fire several weeks later we called the Mesa fire that burned both sides of the Mt. Rose highway (Number 27), about four thousand acres. It surrounded what at that time was called the Mesa, sort of a dining nightclub on the top of a little plateau. This area, before the fire, had an excellent composition of big, healthy, tall bitterbrush, *Purshia tridentata*. It was a very important winter deer range, and also used by sheep in the spring. I was rather pessimistic that the bitterbrush would ever come back, but to my surprise twenty-five years later, there's a trend showing that this valuable forage species is returning.

The morning following the big run, I saw an unusual phenomena. A twister or a dust devil picked up ashes and flame and was

headed right for the fire line. It came to the line right in front of Lloyd Hague, who was the fire staff man, and it just mysteriously disappeared. Looked like he had special powers and made it dissipate. That same day, several Carson City prominent people came up to the fire to help us—including was Wilbur Stodieck, who was mayor at that time. So, I appointed him as fire boss for the shift to relieve Vic Goodwin, who had been on the fire for the twenty-four hours—needed some rest. Actually, Wilbur was honorary fire boss because I assumed the duty, but always appreciated the willingness of volunteers—not only Carson City, but from all of the other towns and communities—when a forest fire occurs.

#### **LAND ACQUISITION FOR NATIONAL FORESTS**

During that summer, Gil Doll and I worked towards the purchase of some timberland west of Washoe Valley. Dr. S. T. Clarke owned twelve hundred acres and was willing to sell it. And we were successful in buying it out of national forest acquisition money for seven and a half dollars an acre. This covered the ridge between Washoe Valley and adjoins Little Valley, which later became the property of the University of Nevada through a donation from Captain Whittell, which I'll discuss later.

Later on in this year, I heard that the Marine Corps was looking for a training site for mountaineering and how to live in deep snow during the cold winters. Their experience in North Korea convinced them that the Marines needed this type of training—cold weather training is the term for it. They were seeking a campsite on the Inyo National Forest, and I heard that the Inyo supervisor wasn't too receptive, so I called the Marines

and told 'em that they were welcome on the Toiyabe. So, they came up, and we looked over the possibilities. And they were glad to choose Pickel Meadows as a campsite, on the Sonora Pass highway. Their first plans were very meager and modest, and they put in a semi-improved tent camp on a sagebrush flat that had previously been cleared as a movie location. But they expanded, and the camp today is quite a large establishment, not only on the flat but up on the first bench.

So, then we had a good source of fire crews, both at Stead and at Pickel Meadow on the West Walker. And to me, it isn't only just the use of them, but it's also a form of multiple use of the land. If Marines and cattle can graze on the same area on which there is timber growing, and it's all a watershed occupied by wildlife, I think that's good management.

The job of a forest supervisor is somewhat complex, and I'd like to provide for the Archives\* a job description for the supervisor of the Toiyabe. His position is a little unique from the usual run of national forest because of the remoteness from the regional office—it's over six hundred miles from Reno to Ogden—and so the supervisor represents the regional forester in many cases with many organizations, legislatures, state officials, even other federal officials.

About the time I came to Reno, I met Governor Charlie Russell, who had just taken office, and had the pleasure of attending his inaugural, and from then on I feel a cherished friendship.

I joined the Reno Rotary Club, and the Prospectors Club, and received orders from the Navy to be a member of the Naval Reserve in the aviation unit, which had a meeting each

---

\*See Sack papers, UNR Library

Monday night here on the University campus. Rotary always met on Monday.

So, for the next fifteen years, when I was in town, it was quite obvious where I'd be for noonday luncheons and the night session with the Navy. Sort of a schedule to be in the office each Monday, have a little staff meeting, and then attend the service club and the military activities at night.

During the summer of '51, I met Captain Whittell through, to me, a rather fortunate circumstance. I had heard about the man, and since he owned over twenty thousand acres of land intermingled with national forest lands, I thought to be neighborly we ought to get acquainted. But the Captain, I was told, was very elusive. He didn't see anybody. I tried through a couple of people who had business with him to see if they could arrange an appointment, and they couldn't help me at all. So I thought one day, I'll go on my own!

It happened the outer gate on Highway 28 was open, so I went through it in the car, with apprehension, not knowing whether a lion would get me, or I might be stampeded by elephants or big dogs, from what I'd heard. The next gate was also open, so I went down to the big house, got out of the car and walked up to the patio, and his nurse-secretary, Mae Mulhagen, met me. And I told her who I was, gave her my card. I told her that I had no particular business to discuss with the Captain. If he wanted to meet me, I was here for that purpose; if he didn't, I'd go on my way. And he invited me in, and it was the beginning of a long friendship with a rather eccentric, elusive man. It was obvious that he was rather lonely, and he sort of begged me to stop and see him whenever I went by that portion of the lake. I'll mention him numerous times a little later.

Oh, I also forgot to mention that I renewed my acquaintance with Major Fleischmann

early in 1951. I say renewed because I'm not sure that he remembered me from our acquaintance in Santa Barbara. But we did briefly talk on several occasions about Lake Tahoe being endangered by pollution. From there on, I spent many hours talking with Lester Summerfield—who at that time was Major Fleischmann's attorney—as a guest at Lester and Nan's home at the Lake. We were very concerned about what was happening to Lake Tahoe. The Major and Lester and I were really more concerned about the pollution of the lake than we were about developments around the shore, as long as they didn't contribute to pollution. That's been somewhat my philosophy from that time on.

On the Toiyabe people don't seem to have big picnics like [those on the Uinta]. It's more of a camping activity except at Nevada Beach. That is really the only large picnic area on the Toiyabe. And it's quite in demand, especially with the construction of that open shelter, and people have to make reservations for that quite a long time in advance. As far as I know, that is about the only site that is somewhat comparable to the picnics held on the Wasatch and Uinta National Forests. Of course, those are more for the large families, while at Nevada Beach, it's more for groups such as service clubs, Rotary, and other organizations.

On August 21, 1952, the Nevada Beach campground and picnic area was complete, including a forest highway to serve it from Highway 50. The Carson Valley and Reno people had such an interest in the park that they desired to have a big dedication. I'd like to provide for the Archives, three pictures of some of the dignitaries that attended and spoke: Governor Charlie Russell, Joe McDonald, Senator Pat McCarran, and Gene Shoup.

I also want to go back to April of 1951. April 28, the Amalgamated Fishermen from Susanville came to the Toiyabe, and I served

as their host for their annual opening of the fishing season. I had hosted them when I was a ranger on the Warner Mountains in 1947, and they came up about twenty strong and camped at the Mill Creek campground and fished in the nearby lake and the creek. I was criticized by some of the locals because I reserved a section of a vacant campground for them, but was able to live it out. But when I came to Reno, they wanted to come and fish with me again, and two of their members were Reno people, Noble Getchell and Gene Shoup. So we went to Wheeler guard station, set up camp. Chet Olsen was invited to attend. They were very exclusive, although not formally organized. They were very choosy about their membership. I'd hosted them then and two years later and was never asked to be a member, but they were glad to camp with us.

I might mention a little about Noble. He was not much of an angler or fisherman, but he certainly enjoyed the fellowship. He was a jolly, entertaining, fine, little gentleman, who was quite shrewd. Loved to play poker with 'em at night. The opening day we had a heavy snow storm, and Chet Olsen and I were out in a boat in the lower Twin Lakes, and it snowed so hard we couldn't see the shore, so it's quite obvious that the fish couldn't see our lure. No one caught anything.

But still the food and the liquid refreshments made angling success only secondary [laughs]. That night it turned really cold, so cold that the coke bottles froze and burst. And Noble had a hard time keeping that bald head of his warm, even with his down sleeping bag.

### SOME DUTIES OF A FOREST SUPERVISOR

As preface to the period of 1951 to 1965, as forest supervisor, I will present diaries, a

page for each day, to the Archives.\* I apologize because the diaries are brief and abbreviations were used, but I wasn't very fond of writing diaries. It was a perfunctory task. Although the last two years that I was with the Forest Service diaries were not required, except brief notes to support expense accounts, having gone into a distasteful task for that long, I kept on keeping a record.

Also, the Toiyabe National Forest brief history in chronological form is on microfilm here at the library. So what I'll try to do will be to expand on some events that I hope might be of interest.

In January of 1952, it was a severe winter month at which time the streamliner *City of San Francisco* was snowbound west of Donner Summit. The Southern Pacific Railroad officials here in Reno needed about a hundred long handled shovels. Of course, hardware stores did not carry shovels in that supply, so they came to me and wanted to buy shovels, thinking that we would have them for firefighting purposes. We did have over 500 on hand, and I offered to loan them the shovels, because I couldn't sell them. It being an emergency, that would be justified. But the railroad company couldn't borrow them, they had to buy them. With our conflicting policies we almost reached an impasse [laughs]. Finally, they took the shovels without paying for them at the time, with the understanding that they would be replaced and returned to us with the same number of new shovels.

Speaking of government procedures that seem to be rather exhaustive and more than necessary, I have found that big utility companies have similar requirements. I'd like

---

\*See Sack papers, UNR Library

to digress back to 1942, while on the Modoc, when I was acting supervisor in March.

American Telephone and Telegraph Company right-of-way agent came to the office in connection with the big, crash project of building a hotline interior from the coast (that might be subject to enemy attack), with a terminus in Phoenix and the north terminus to Portland. The line was to cross sixty miles of the Modoc National Forest, and they wanted an easement. So I told them, "Let us know where you want to go, and we'll issue you one." They were rather surprised and asked me how long it would take, and I said, "I think we can have it typed up for our signatures in a half a day." They were amazed and wanted to know if this didn't have to go to San Francisco and Washington. But I took the attitude that it's certainly a war emergency and those in San Francisco and Washington didn't know any more about it than I did, so we had the easement prepared in about four hours. However, it took the AT&T, then, over a week [laughs] to accept it.

Perhaps I've been notorious for cutting red tape. I've always felt there's a legal way to do anything, if you really want to do it. If not, why Congress is in session almost continuously and can pass an act that would make it legal. Inspectors and auditors had told me that I'd exceeded my authority, but I was never chastised nor had my authority taken away from me.

Upon assuming the position as forest supervisor, one of the first things that impressed me was that the Nevada Division of Forestry was woefully underfinanced and undermanned. As I've mentioned previously, I had seen the California Division of Forestry built from a meager, weak organization up to one that was strong, effective, and in some places with more resources than the U. S. Forest Service. And at this time in Nevada,

the state forester was the state surveyor-general. He was ex-officio state forester, and he had an assistant state forester named Don Drummond and one fire guard named Charles Swanson. As a coincidence, he and I went to Iowa State in forestry at the same time. Their equipment consisted of a World War II surplus jeep and an old power wagon that had been worn out and transferred from the federal government to the state. Swanson, in reality, was a sort of a errand boy for the forest supervisor. He had a desk in a corner of the office. And I thought, it's time for the state forester to build up and get some identity. Even the Forest Service was collecting cooperative fire suppression funds from the private land owners, as the district west from 395 to the state line was eighty percent privately owned. I felt that these funds should be deposited with the State Division of Forestry, and start them on their own. All of the lookouts were manned by the U. S. Forest Service. I should qualify that statement because McClellan lookout, west of Virginia City, was occupied by a woman, and she was a good one. But Peavine and Zephyr Point, surrounded by privately owned lands, were U. S. Forest Service operated. I'll discuss the state as time goes on as to how they have built up to meet their responsibility.

My first spring in Reno, I was impressed with the balloon that floated over Harolds Club. It was a World War II surplus barrage balloon shaped like a blimp, and the Smiths had it as an attraction to their casino. I thought it would be appropriate for them to put a fire prevention sign on it, and with that idea met Raymond I. "Pappy" Smith. And he said, "By cracky, that's a good idea." And as long as that balloon was launched from the three story building during the summer, it had a big, legible sign, "Prevent Forest Fires." After the club added the four more stories, that was



the end of the balloon, and I believe also the end of their searchlight that they used at night.

This idea then, I thought we'd expand and get them to put a fire prevention message on all of their billboards in the West. The Smiths were very agreeable, cooperative, but since it would be in other states, I thought I'd better clear with our regional office in Ogden. Some of them were rather provincial and sensitive to having anything to do with gaining, so they vetoed the idea. However, the California region picked the proposal up, and Harrah's had a fire prevention message on their billboards in the mountainous portion of California. I'm not an ardent defender of billboards, but it doesn't make any difference to me who is advertising if it carries a "prevent forest fire" message. I don't care whether it's a chamber of commerce or a liquor firm or a casino. To me, their billboard funds are not tainted!

Soon after assuming my duties, I found out that the Washington office had recommended my transfer to the Department of Defense in Washington, D. C. to work on an almost endless project of mapping the vegetation of the world from aerial, photographs. It would have been an interesting challenge, but my foremost desire was to be supervisor of the Toiyabe, and I asked Washington to withdraw my name. However, by now, with satellite photography, probably all of that work would have been obsolete. But it would have given an opportunity to field-check many places throughout the world.

The local newspapers were always very cooperative with the Forest Service. Joe McDonald and John Sanford told me when I was new here, that if the Forest Service didn't do anything except to prevent and control forest fires, our existence was justified. Art Suverkrup, editor of the *Record-Courier* at

Gardnerville, was also a good friend of the Service.

In January of 1951, I got into a water legal suit. And there's nothing more controversial and complicated than suits regarding water rights. I found out that the Carson decree did not provide for the Forest Service to use water, which I had always assumed comes under state jurisdiction. The springs to provide domestic water for campgrounds, administrative sites, the irrigated lands in connection with private lands that were irrigated, were not provided for in the decree. There was one other use of water that I was concerned with and that was the natural wet meadows that obviously consumed water; and they should be recognized as a beneficial use.

So, they designated Bill Cashill as a special deputy U. S. attorney to prepare a case. And it was the United States vs. (Somebody). The largest water right holder was the Alpine Land and Reservoir Company, so they were named as defendants—not that we had anything against the company— but somebody had to be. And that suit has continued on to this day, February, 1975. It'll have to be settled before the [California-Nevada] interstate compact can be ratified by Congress. I've tried to brief the forest supervisor and district ranger that have followed me since 1965 as to the importance of it. About every four years, a representative of the Department of Justice in Washington would come out and have a conference with me in hopes that I would agree to dismissing the suit. After taking about a half a day to explain it to them, they began to think that it was justified and would say that I had a good case. [To] several of them, I mentioned that recognition of natural meadows as a legitimate, beneficial use of water would set a precedent. One or two of their men replied to that, that all of their cases set precedent [laughs].



The flood in late November and early December, 1950 practically obliterated our fire protection road up Leviathan Creek to the old Leviathan mine. we estimated that it would cost about five thousand dollars to make it barely passable, and we didn't have the money. But sometimes happy things happen. The Anaconda Copper Company was developing their plant at Yerington (later to become Weed Heights), and they wanted to take the huge sulphur deposit at the Leviathan mine to Yerington to use in the process. So they were successful with the U. S. Bureau of Mines and the U. S. Bureau of Public Roads in getting about a quarter of a million dollars, and built an excellent high-standard, graveled road from Highway 395 into the mine. So, in a year or two, our problem was completely solved.

Early in '51, I got acquainted with LaVere Redfield, who at that time owned about fifty thousand acres within the boundary of the Toiyabe National Forest. He was always a pleasant, unassuming man. Very punctual. He had purchased these lands from the receivership of the Nevada Bank; paid about a dollar and a half an acre for them in 1938. This was at the same time that the Forest Service purchased about ten thousand acres in Dog Valley for sixty-six cents an acre, from the same receiver. But it was impossible for the government to buy the land on the Nevada side, because it was not within a national forest boundary. I had reviewed the Dog Valley purchase, as they were makin' the appraisal in 1937, when I was on the Tahoe Forest. Later on I'll discuss more about Dog Valley and submit for the Archives a brief history.

On August 19, of '51, Tom Smith and I went sagehen hunting. He hadn't gone on a hunting trip since his youth. We went over to the Pole Creek, northeast Like County,

one of the narrow margins that's tributary to the Columbia River. Former Governor Vail Pittman and Jim Cashman joined us; Supervisor Torgeson or Torge, was our host. The next morning at the opening of the season, we all had our limits except Tom. He wasn't able to walk very far and was somewhat discouraged. We went back to camp for breakfast. I told Tom not to worry. We'd get him some sagehen without havin' to walk too far. I might have been a little overconfident, but as we were leaving in the car, we saw a flock, and he got his limit within fifty yards of where we had parked the car. He was as happy as a young boy.

This same year, Dr. Paul Needham, who I have mentioned on our expedition to Mexico and other fishery projects, had retired from the Bureau of Fisheries. And after a short time with the Oregon Fish and Game Commission, was then appointed professor of ichthyology at the University of California, Berkeley. He came to Reno to see me, looking for a stream that would be suitable for the university to use as a field laboratory. Sagehen Creek north of Truckee seemed to have all the desired qualifications. So I helped Doc get a Forest Service permit from the Tahoe National Forest and loaned him some surplus camp equipment we had for the first students to use. And I'll submit a copy of the progress report, the fifth one for Sagehen Creek, for the Archives. In 1953, following the death of Major Fleischmann and the foundation was created, Doc needed some additional funds beyond the meager budget that the University of California could provide and was debating about submitting a request for a grant to the Fleischmann Foundation. This being one of the first grants (at least that I know of in California, at least, for you might say, research in wildlife biology), Doc couldn't decide how much to ask the foundation for. I asked him

how much he needed. He replied, "About \$30,000."

"Well," I said, "why don't you ask for that?"

Which he did. And they very cooperatively made the grant that started this field laboratory which has continued on to this time—a benefit both to the students learning in the field, but has accomplished valuable research.

In February, 1952, I served two weeks active duty with the U. S. Navy at the Alameda Naval Air Station and was very impressed with the change from a wartime Navy to a peacetime defense unit. It was a really pleasant duty.

On June 4, 1952, our son Gary Norris [Sack] was born. And from the time he was a baby, it was obvious that he was one of considerable determination, and he grew up to be a determined intellectual, mechanically inclined.

In July of '52, there was a lightning-caused fire south of what is now called the town of Walker in Antelope Valley. There was no town there at that time. But the fire spread to about ten acres, more than several of us and a couple in the valley could take care of. So we called out the Marines. The first fire they'd attacked from the new Pickel Meadow cold weather training camp that I had previously mentioned. So they sent ten Marines over, and they did excellent work for us, and about seven o'clock that night, here come ten more Marines. Well, I was rather startled.

I said to the leader, "We hadn't ordered more men."

"Oh," they said, "these are fresh men that have been fed, and we'll pick up the other ten and take 'em back to camp, and let them get somethin' to eat."

As soon as the fire was contained I rushed to Reno for another Navy physical examination, this time promotion to rank of commander.

On June 22, Joe McDonald and I, upon the invitation of Chet Olsen, went to Salt Lake City and had a tour of the Davis County watershed research project. Prior to the work the Forest Service had done, the communities at the base of the mountain had very severe dry mantle or summer floods—both water and rock and mud. And even at that time, Joe was very concerned about the floods that the Truckee had experienced and wanted to see on the ground what might be done to help prevent floods.

On our return, we came through Austin. It's a minor item, but we were both impressed. There was a huge infestation of Mormon crickets just north of town. They were just swarming, seemed like everywhere. And we stopped to see the invasion, the damage that they were doing, and the partial results of attempts at their control.

Well, the Forest Service cooperated in helping put out poison bait for them. It was actually within the national forest boundary, but it was on private land. But they would sure spread to other lands in a short time. Apparently the control methods were effective. And I haven't heard of an outbreak in that locality since.

On July 23, the famous Fleish fire started just above Verdi, on the other side of the river, barely east of the California-Nevada state line. Don Drummond (assistant state forester I had mentioned) and I were coming back from an inspection trip in Dog Valley and Verdi Peak and saw the fire start at the forebay of the penstock serving the Sierra Pacific Power Company's hydro-electric plant at Fleish. So, we started for the fire and saw two Stead Air Force men walkin' along the road, and we picked them up. They were tired of K-rations and were walking into Verdi to get something better to eat. But they didn't stop for that—we took 'em to the fire. And you can guess that

night what they were given to eat [laughs]. More K-rations.

Soon after our arrival, Vic Goodwin, the district ranger for the Carson district, arrived. And I automatically designated him as fire boss. In those days, it was traditional that the ranger be the fire boss. As George Stewart's novel [Fire] went into considerable detail (a copy of which I'll provide Archives), it's a long, disagreeable almost, ceremony to relieve a district ranger of the responsibility of being fire boss on his district, Vic was rather excited, and we tried to hold it in a drainage, but it vent over our heads. So, he got on the radio and called the dispatcher, Van Arsdale in Reno, not only to report the fire, but to get lots of help. And Van asked him what he needed.

Vic says, "Give me everything you've got."

Well, I told Vic, "Tell him we'll call him back a little later," and then I explained to Vic that everything he has is far more than what he needs. That would mean bring in overhead from Pennsylvania, smoke jumpers from Idaho, caterpillar tractors and tankers from southern California. I said, "Let's analyze this. There's about two miles of perimeter, which makes two fairly easy sectors, and you need about fifty men for each sector. That makes a hundred." And he ought to have on order another hundred to man it the next day.

So Vic rescinded his big order and [laughs] became more reasonable. It was too steep for bulldozers, and of course, that was before the aerial drop of retardants. But the fire was much easier to control and took far less time than a lawsuit that was to follow.

In about the middle of October, 1953, Dick Hayman, who owned the Fuller Lake property, brought suit against the Sierra Pacific Power Company for about seven hundred thousand dollars, because of the damage that he alleged that he suffered in his little fish hatchery up at the lake. It

was a jury trial. Pete Echeverria and Mr. [William] Foreman represented the power company, and George Vargas and Ken Dillon represented Mr. Hayman, the plaintiff. Since we expected a parallel suit, at least to collect the costs of suppressing the fire, our Ogden lawyer suggested that I attend the trial. Each day of the trial, I'd go over and listen from about ten in the morning with noon recess, 'til four in the afternoon. Judge Belford presided and instructed the bailiff not to allow anyone in the audience to take notes. So then at four, I'd rush back to the office and dictate, trying to remember everything I heard during the day.

In January, the case went to the jury, and the jury came up with an acquittal for the power company. I might back up a little. The lawyers for both sides wanted me to be an expert witness. I hadn't told them that I had seen the fire, but they knew that I had prepared a report. The plaintiff lawyers wanted me to help establish liability, and the defense lawyers wanted me to help with the determination of values. Incidentally, Dr. Needham was selected by the plaintiff as an expert witness in regard to damage to the fish hatchery. But he didn't like the way it was going and wouldn't say some things, so he was dropped.

Both sides tried to get information from me. I told them that I would give them anything that was public information, but I insisted that both parties be there to hear at the same time. This wasn't acceptable [laughs]; they never showed up. However, later, our case was settled out of court. The power company paid \$18,000 suppression costs with the settlement "with prejudice," which meant it could never be opened again, and did not either establish innocence or guilt.

Backing up to earlier in 1952, [J. K.] Ken Metzger moved to Reno and built a sawmill

west of town called the Tahoe Timber Company. About the time the mill was complete, Hank Norton moved over from Oroville to be his head forester.

The timber industry in western Nevada was far more important than people realized. So with the cooperation of the industry, the supervisor of Plumas, Bill Peterson; Guerdon Ellis of Tahoe, and again Wes Spinney (who I'd served with in the Solomons) as supervisor in the El Dorado, and I were to put on a program at Reno Rotary in regard to what the industry meant to western Nevada. And a little summation that was presented to each member, I'll provide for the Archives.

I might say too, I had the pleasure of introducing the other supervisors, but they talked so long—I'm not sure whether it was deliberate—that I didn't have a chance to speak for the Toiyabe [laughs].

In September, 1952, the Toiyabe was scheduled to have a general, integrating inspection. As I've mentioned, in 1950, I was an inspector. Now I was the recipient, or as an inspectee, and Floyd Godden (who I inspected with on the Fish Lake) was one of the inspectors, and Erol Crary was the other. They chose to work weekends as well as during the week. But the opening of sagehen season on September 14, appeared to conflict with some of my personal plans. But I talked them into going up to Austin the day before, at which time the new Highway 8-A was to be dedicated with Governor Russell and Senator Malone and many other dignitaries present. And following the dedication, I persuaded Charlie to go sagehen hunting the next day. He was certainly not equipped but we borrowed clothing and a gun, and Billy Holcomb and Joe Wells made up the party, and we went out to Kingston Canyon guard station and spent a delightful evening. Got up early the next morning; Ranger Art Cusick joined us, and

we hunted in Monitor Valley. By ten o'clock in the morning, each of the six of us had a limit. At that time it was three birds. Sometimes if you go about it right, you can lead inspectors to the places you want to go.

November twelfth of 1952, Hugh Shamberger and some of the rest went to the National Reclamation Association meeting at Long Beach—all of us as delegates, and I, also, representing the Forest Service for the region. I believe Bill Brussard, at that time manager of the Chamber of Commerce, went with us, too. He attended. All of us were anxious to try to get the next annual meeting to be held in Reno. Of course, that was good for the local economy, but I had a personal motive. I wanted to get national attention focused on the Truckee River watershed, including Lake Tahoe. I hoped that it might support the Washoe Project, and of course, Forest Service appropriations for watershed work, including research. So then the following November twenty-third 1953, the convention of the association was held in Reno. I'm not too sure about all of my objectives being realized, but several years later, they appeared to become more tangible.

#### **DEVELOPMENT OF SLIDE MOUNTAIN SKI AREA**

Early in 1953, attended a meeting that to a country boy was very impressive. And that was when the business people of Reno had a fund-raising session to finance Reno Ski Bowl, or what is known now as Slide Mountain. They needed to start construction of a lift, other facilities, about two hundred and fifty thousand dollars. And in less than an hour, with no argument, that much firm money was made available. The Riverside Hotel, Harrah's Club, I believe the Nevada Club, the Mapes Hotel were some of the larger supporters.

And then Pappy Smith volunteered the last fifty thousand if the others could raise the two hundred thousand. The president of the First National Bank was present and one of the directors. They called themselves then the Washoe Development Corporation. Asked Pappy if he would contribute the amount he offered, if then it was necessary to borrow from the bank to reach the two hundred thousand. Pappy says, "I don't care where you get the money. By hook or crook, I'll put up the last fifty thousand." [Laughs.] I remember too that day, Norman Biltz came to the meeting a little late, and they asked him if he would confirm the previous promise of seven thousand, and Norman says, "Oh. Put me down for eleven." [Laughs.]

So then they were able to go ahead. The supreme court had ruled that Washoe County could condemn Redfield's property for the parking area, approach road, and lower terminus. They built the lift, which is still in operation. It's remarkable, everything's backwards, but it still works. We had long discussions. The designer and contractor who built the lift, wanted to run the lower terminus out into the area I visualized as a parking area. They wanted to run the lift through the only area that is suitable for the beginners or "bunnies." I wasn't successful in getting them to relocate the lift, as it was on county land (national forest land was just above it), but did talk them out of spoiling the parking area for the lower terminus. And they were insistent on building another lift from Sky Tavern into the Bowl. I tried to talk 'em out of that. We'd have a highway in there in a year, but they didn't want to wait that long. Spent about ninety thousand for this lift that was only used one year and a part of another.

On November 23, Carl Fuetsch and I were the first to ride the upper chair lift, for the trial or you might say "*shakedown*." They were

carrying freight on some of the chairs, and about the time we reached the notch near to the top, they stopped the lift for about twenty minutes. There was a wind blowing about fifty miles an hour, carrying sleet, and we sat there together with the chair bouncing up and down, swinging sideways, and swinging back and forth. [Laughs.] But things seemed to go well, and two days later, November 25, they had a dedication.

This same year, in the spring, the Reno Women's Civic Club wanted to adopt a conservation project. And I proposed that they encourage school children to plant trees, which they did. We selected an area up near the Christmas Tree on Mt. Rose highway. And several Saturdays, the children very diligently and with great ambition, planted young pine trees and also released some that were there already by trimming the brush from around them. There was a little, crippled girl. She had polio, but she went up and worked right with the others, braces and all, and even when they finished down the hill, refused a ride back up to sort of the base. So the other children asked, and it was granted that the area be dedicated to the crippled children of Nevada. Today you can see the results of some of the work. Not near all of the trees lived, but in time there'll be a pretty good stand of second growth.

I mentioned Mr. Redfield, but didn't tell about our difficulties with a road across his land. When he purchased the property, he granted an easement to the Forest Service, at that time the Tahoe National Forest, for a fire road and fire break to Hunter Lake, and the Foothill Road from southwest Reno over to the Mt. Rose highway. This was to be a road for only fire suppression purposes. The public was not to be allowed to use it. So soon after I arrived on the Toiyabe, Mr. Redfield would call frequently on Monday mornings, following the Sundays that people were using



the private road, and I was committed to keeping out the public. We put a locked gate where the road entered his property, and invariably the gate would be destroyed. We kept building bigger and stronger gates. One was obliterated with dynamite, and another one was subject to a cutting torch. In '52, at the beginning of the hunting season, we had two Stead Air Force Base enlisted men be sentries. But finally it reached the point where it was impossible to deny the public use of the road, and we were not in a position to maintain a fire break, so I told Mr. Redfield we would relinquish the right-of-way and let it revert back to him. For the good of the public, that was the thing to do because after that he never went to the expense of keeping it closed. Each summer, one day, Mr. Redfield and I would go out over the country looking at his land and the intermingled national forest lands, small parcels surrounded by his property. Then as custom, we'd either go, after the trip, to his house, or to my home and have a glass of red wine. As far as I know that was his only form of dissipation. He abhorred cigaret smoking and the drinking of hard liquor.

He was very fond of wildlife, and one reason that he insisted on closure was to protect the animals, especially deer. I know one year previously, we did a little road maintenance and knocked down two mountain mahogany bushes alongside of the road, and as a result, that's the only time I ever saw him angry. We went out with him and appraised the damage, and I agreed to do some reseeding. Mr. Redfield's sentiment towards wildlife is, I've noticed, somewhat typical of other very wealthy people. They seem to have an affection for animals, not only wildlife, but domestic stock. Captain Whittell was a good example. He wanted me to cooperate with him in creating a wildlife refuge for all of his land east of Lake Tahoe

and including intermingled national forest lands. Looking back, I believe if that had been acceptable to the Washington office, and even the regional office, he might have left that land in his will to the Forest Service. There's some other things that'll come up a little later in regard to his will. Also, I noted that William Harrah has a similar affection for animals. And if they are destroyed or disturbed, he wants to know if there was a reason for it. That includes bobcats and old decrepit horses.

### FOREST PUBLIC RELATIONS

In regard to my comment about Vic Goodwin, I felt it was a responsibility of the forest supervisor to be sure that the fire boss was able to get what he needed, but at the same time, that his request should not exceed what was actually needed. I always had the philosophy that an expensive, little fire was better than a cheap, big one.

Also the forest supervisor on many fires has a public relations job to do. This might seem rather strange when an emergency exists, but one example is: When there was a fire burning on the Tahoe Forest on the west slope of Verdi Ridge, a reporter for the Nevada *Journal* tried to go to the fire camp, and the road was closed to everyone except firefighters. Then they chartered an airplane to fly over the fire, and that was prohibited because of possible conflict with Forest Service aircraft in connection with the suppression. So, Paul Leonard called me, and he was almost as warm as the fire [chuckles]. I offered to take reporters into the fire on a back road that I knew about, so that they could see it, but by that time, the fire'd cooled off, there was less smoke, and the newspaper people had also cooled off. I'll mention, later on, several other examples of public relations necessary on forest fires.



A new forest supervisor in the area has many new assignments in working with the public. And I think groups figure, "Here's a new man, we can get them to do a multitude of things." Soon after arrival, I was a chairman in the Red Cross drive; I was chairman of the U. S. Savings Bond sales for government employees; I gave examinations to Boy Scouts for merit badges in connection with conservation, and even wood identification; I was consultant to the Girl Scouts; and on several committees of the Chamber of Commerce, especially in regard to the development of a winter sports area, also was on the YMCA camp committee.

The Toiyabe at that time, of course, included about two million acres of national forest land in central Nevada. The Shoshone range, Toiyabe, Toquima, and Monitor ranges. Many people often wonder why there are national forests in central Nevada because of the lack of commercial timber species. Once Senator Malone said in a hearing that there was no need for national forests in Nevada; that he could jump over any tree that grew in Nevada. However, to me, a pinyon and juniper are an important resource. The Bureau of Land Management and the Humboldt National Forest have carried on extensive pinyon-juniper eradication programs, but that was contrary to my policy. And as long as I was on the Toiyabe, we never tried to convert these woodland species to the range. It's true that pinyon-juniper competes with forage, but at the same time I consider the type as having other values such as, erosion control, both water and wind. And in time, pinyon-juniper is going to have a greater commercial value than it has in the past. Juniper was considered worthless unless it was large enough to make fence posts out of. And about the only use they could see that pinyon had was for a harvest of

pine nuts in the fall. But in time, it'll become more recognized as a forest resource.

The reason national forests were created in central Nevada was to help give the local stockmen, especially those that grazed cattle in the valleys of Reese River and Smoky Valley, protection from emigrant, or migrant, or nomad sheepmen. In 1906, there were estimated to be 96,000 sheep that trailed the length of the Toiyabe Range, down and back. As there wasn't any range in the desert end, it really amounted to a sheep driveway where sheep stayed during the summer. This denied the local ranchers, then, of having summer range for their cattle outfits in the two valleys. The damage that those sheep caused seventy years ago, is in many places still evident. So the local people pleaded for a forest reserve.

In 1906, Clyde Leavitt, stationed at Austin, examined lands to include in the forest reserves. The boundaries are somewhat erratic, and the reason being that he would ask the local people whether they wanted to be in or out of the forest reserve. If they wanted to be in, the lines included at least their lands to the toe of the mountains. If they wanted to be excluded, the boundary jogged back up the slopes so that their lands would not be within the national forest boundary, or it was national forest a year or two later.

In 1907, the number of migrant sheep was reduced to 63,000. This was about the year that the forest reserve was established. And in 1908, all but 12,000 of the sheep were turned back. In 1974, there are only 4,800 sheep under permit on the Toiyabe range. This reduction in number isn't entirely due to action of the Forest Service in so-called range cuts. Many sheepmen converted their permits to cattle. The last large conversion was that of Frank Arcularis. And I offered a rather poor ratio—ordinarily the ratio is five

sheep to one cow—but for one of his bands wasn't willing to convert better than eight to one, and another band on a ratio of ten to one. His attorney, [W.] Howard Gray, asked me if that wasn't a very drastic reduction, and I contended that it was no reduction at all, because Frank had asked for the conversion. We weren't reducing his sheep numbers, and if he didn't want to take that ratio, he could keep on running sheep. They asked me if they converted to cattle and then converted back to sheep, if they would still get the same number, and I answered that they would, at least for the term period.

This conversion also eliminated the last "common use" allotment on the forest. Common use means where there's both cattle and sheep on the same allotment. That was a practice that the Forest Service adopted way back just after the end of the wars between the sheepmen and the cattlemen. The theory was that some allotments had forage that the cattle wouldn't eat and the sheep would, or vice versa. And there is a little logic to it, but when both sheep and cattle are on the same allotment, it's hard to have either one of the permittees, then, accept responsibility for the condition of the range or participate in good management. I think probably today, some Forest Service people don't know what common use is. It's gone. It's eliminated.

During World War II, the pressure to reorganize the Forest Service, perhaps place it in the Department of Interior, or the pressure of livestock people to be guaranteed more of a so-called *right*, was held in abeyance. You might say the last stand was the proposed Stockmen's Act in 1952, in which the sheepmen and the cattlemen hoped to improve their tenure for a longer period than the ten-year term permit. They wanted protection too from reductions. And

some of them still hadn't given up hopes that the national forest lands might be acquired and placed in private ownership, or possibly become state lands. At that time, Governor Russell made an announcement that the state of Nevada could not afford to acquire the federal lands in the state, both from the point of view of management, and also the benefits that came to the state in the way of appropriations, because of the eighty-seven percent being in federal ownership. The highway allocation of funds was a good example.

Well, [Clifton] Cliff Young moderated a panel on the Stockmen's Act in 1952 here on the University campus, and it was obvious then that other interests were becoming more pronounced in the use of the national forest lands. Surprisingly, the issue of grazing fees never was brought up to any extent. As history shows, there's been a continuous controversy about the grazing fees on BLM lands. I asked several stockmen why the fee issue never applied to the national forest lands, and their general reply was that we had a different product to sell—that is better quality and quantity of forage—although the Forest Service fee was always much higher than that charged from the public land reserve.

Earlier I mentioned the Amalgamated Fishermen' from Susanville. They came back again to Wheeler guard station in 1952. They were an interesting cross section of people from Lassen County; bankers, merchants, timber industry, the sheriff, and a few retirees. They had a little better luck that year. And then the following year, 1953, we hosted them at Kingston Canyon out in central Nevada, south of Austin. And on this trip, Governor Russell joined us for the two days.

About this time, I was offered a promotion as an assistant regional forester in Ogden by

Chet Olsen, but I declined. I didn't want to be an assistant to anyone. I wanted to still be the supervisor of the Toiyabe. Several years later, another offer was made, and I declined it. And after refusing twice, I was left alone for the rest of my career.

I had worked considerably with women's clubs. I mentioned the Youth Forest previously. Then in '54, they wanted to take on another project, something that could be done in connection with an annual picnic out in the woods. So I suggested that we select a conifer tree, each year a different species, and have a sort of a dedication, and identify it with a rustic sign. They provided the material; we made the sign, and then each summer we'd have a picnic and then a dedication for the next six years. The dedication consisted of a brief prayer and other fitting ceremony, and a short talk by their "forester friend." The signs are gone, in general now. It's surprising how short a time rustic signs last. The mortality either from vandalism, theft, or the elements, usually obliterate signs in between five and ten years.

One of the more active women in conservation club work was Margaret Bailey, a local attorney. She was a very close friend of Mrs. Harriet Metcalfe, who was a member of our supervisor's staff. She and her husband, Fisher [Bailey] had purchased a section of land on the San Bernardino National Forest, west of Big Bear, with the intent that it would be preserved as a wildlife sanctuary.

When Fisher died, in his memory, Mrs. Bailey erected a large granite monument, supposedly on their land. In 1961, the Forest Service notified her that the monument was not on her property. Actually, it was in trespass on national forest land. This, according to Mrs. Metcalfe, had Margaret very disturbed. So I suggested that we make a trip down to her property and see the situation. Mrs. Bailey

was in poor health; she had cancer at the time. So Mrs. Metcalfe went with us, and we went down to see the predicament. The forest officers in San Bernardino met us. And we went over the lines, and it was true that she had placed her monument on the wrong side of the line. This caused a great deal of emotion that day. And so we made arrangements. We selected a site and prepared it on her property on which to move the monument.

On the way home, Mrs. Bailey asked about what I thought of her donating this six hundred and thirty-nine acres to the Forest Service as a sanctuary for wildlife. I told her I was hesitant to give her an answer, because I was prejudiced, but Mrs. Metcalfe was freer to talk; and Margaret made up her mind, then, that she would go ahead and donate it, (the land) to be part of national forest land. I told her how to do it, and it should be designated as a special wildlife management area rather than a refuge or sanctuary, because the wildlife that was on the area actually didn't need preservation. They were not vanishing or diminishing in numbers. So, soon after that, the donation went through, and the land appraised at I think about seventy-five thousand dollars, and now is worth two or three times that amount.

In 1953, Don Drummond, previously mentioned as the deputy state forester fire warden, resigned and went to Montana. And George Zappatini was selected in his place. I might give a little background how the selection was made. At that time, the state board consisted of the dean of the College of Agriculture, because of forest extension; the surveyor-general (ex-officio state forester); and the governor. At that time, Dr. Hutchinson was dean of the college of Agriculture. I took him to a meeting of the board in Carson and persuaded him that George Zappatini was the man. Louis

Ferrari had already expressed consent. So it was routine for Governor Russell to go along. George was not a major in forestry, but I believe had a master's in range management; at that time, was county agent at Tonopah for Nye County. I was very happy that a professional man was selected because there's always a little danger in politics, and George was young, very energetic, and aggressive. I mentioned how the Nevada Division of Forestry needed to be built up, and as a proof of how, what they accomplished, I submit to the Archives a report of the state forester fire warden for the period July 1, 1954 to June 30, 1956. It contains some of the history and comments of what their organization was during that biennium. And to me, they made remarkable progress.

In 1955, December 22, Reno had another flood. It was what we call a wet-mantle flood—that is where a warm, maritime, moist air causes rain on the snowpack. The city of Reno had a flood prediction committee, in which I was a member. Other members consisted of the Corps of Engineers, the city engineer, the Sierra Pacific Power Company, the Truckee-Carson Irrigation District, and the Weather Bureau. We met on the evening of December 22, and the general consensus was that the flood had crested. So everyone, except two of us, decided to go home. Mr. Sheppard (of the Weather Bureau) and I were a minority, and didn't agree. I'd been up in the watershed all day, and I'd seen how the snow had all been melted. There was no more snow to absorb rain, and I figured that there'd be about a twelve-hour lag before all of that melted snow and rain came down the Truckee to Reno. The Weather Bureau had reliable information, too, that the rain was going to continue. I dug several holes in the ground about a foot deep on the upper watershed and was amazed that the hole

filled up with water just about as fast as I dug it—not from the direct rain, but the whole soil mantle was saturated to capacity. So, Mr. Sheppard and I predicted that the crest, or the river would leave its banks, about six a clock the next morning; and we were proven to be right. So, the city might have done a little more in the preparation for this high water, if they hadn't've reached their decision the night before.

From the time I came to Reno, I worked closely with Buck Wheeler. In the early '50s, he was a biology teacher at Reno High School and a dedicated conservationist. He and some of the rest of us were anxious to see conservation taught in the schools, especially the junior high level. So with his motivation, we prepared a conservation text for Nevada schools. Buck was the chairman, and the rest of us, both state and federal in conservation work, each contributed a chapter. The first chapter was a story of a Forest Service fire, written by those of us in the Forest Service. Now that we had a conservation text, Buck's next objective was to motivate teachers to teach conservation. So he started a summer school session for teachers. I had the honor of being the lead-off speaker each year, for about ten years. The second day, we would take the teachers on a field trip, usually in the vicinity of Lake Tahoe, as a field laboratory where we could talk about conservation on the ground.

The conservation text had two editions, it's now out of print, but I understand there are copies in the Library. If not, I'll provide a copy for the Archives.

## **FIRE AND WATER**

In '57, on June 24, there was a fire caused by a small child playing with matches right back of the town of Genoa. A picture of this fire, with a huge column of smoke over the

little town of Genoa, was published in *Life* magazine. For the Archives, I'd like to provide a copy of my report of the action taken on the fire, as a part of the Forest Service critique. The old board of review, that I have previously mentioned, was discontinued, and at this time it was more of an analysis or critique of the action taken on the fires.

That same year, on September 4, the Toiyabe had the first smoke jumpers attack fire. This was on a high ridge at the head of Fay Canyon in Alpine County. It took a crew of men about eighteen hours afoot to reach the fire, and they were exhausted when they arrived. And it was obvious that they were not able to contain it. District Ranger Lyle Smith asked for quick help, either helicopter or smoke jumpers. And I resolved it by ordering ten smoke jumpers from Redding, which was preferable to helicopter as there weren't any in the locality. Very few of 'em could operate at such a high elevation. In about an hour, the smoke jumpers stopped at Reno for a briefing, and I arranged for Walt McKenzie, a reporter for the Reno newspaper, to go along and be an observer and cover the story. In another hour, it was quite a thrill to see the parachutes open, and the men drop on the fire followed with other parachutes with tools, and combined with the men already there, were successful in controlling the fire that could have been a serious one without some air support.

In 1959, the first drop of borate as a retardant from an airplane [was] applied to a fire at Falls Meadow, also in Alpine County. So, the Toiyabe was beginning to take to the air in the suppression of forest fires. At that time, however, the state forester for Nevada, and the Bureau of Land Management, and the Forest Service all went together for a sort of an air center, first at Stead and then later at Carson City, to provide for aerial

attack on state, BLM and national forest lands. I mentioned that borate was dropped, which was correct, but the media, especially newspapers and television, still to this day report the retardant being borate. Borate was discontinued about 1960 because they found that it was a soil sterilant. Following that, they used bentonite, which is merely a form of adobe mixed with water, and the latest chemical used is just a simple fertilizer that serves the same purpose, or using somewhat the principle of heavy water. The bright orange or pink color is a material that has nothing to do with it as a fire retardant. It's used just so that those on the ground and also on the air can see where the drops have been made.

On July 20, 1956, there was a so-called cloudburst in the head watershed of Galena Creek, and where the Mt. Rose highway crosses the stream, four people were taken by water, rock, and mud flow downstream and lost their lives. We had just started to restore the national forest land at the head of Galena Creek as a watershed by construction of terraces. But the government land is such a small proportion, it wasn't sufficient to do much in the control of the flood of this size. But it did, the flood of '55 and then this flood, did motivate some watershed research in the area. And the Forest Service assigned a hydrologist to begin on research of the Truckee River watershed. We got a little money too, and built the first stream gauge station on Dog Creek. I'll mention more on this research at a later time.

In 1955, the California region was beginning to consider multiple use management, and Everett Jensen (that I had mentioned in 1940, on our pack trip, where we had talked about this concept) was then assigned to the regional office to sort of organize planning by subregions. The



Sierra portion of the Toiyabe was a logical portion of the Sierra subregion. With some reluctance, Chet Olsen, our regional forester, approved me participating with the California region, and the memo of his approval with reservations is now a part of the Archives. We were beginning to realize some of our dreams of almost twenty-five years previous.

In 1956, then, I presented to the supervisors meeting at Ogden (the Intermountain region) the subregion multiple-use plan that we, in the California subregion had developed. I received a very cold reception. They had it confused with just land-use planning that had been done years previous. But the fault of land-planning does not integrate or coordinate the uses by different zones such as basin front, intermediate, crest zone, and then occupancy zones such as waterfront and highway front. Finally reached a point at the meeting where I told 'em I wasn't tryin' to sell it to 'em, I was only trying to explain it. And there weren't any buyers. However, in about six months, Regional Forester Olsen retired, and my long-time friend, Floyd Iverson, became regional forester. One of the first of his acts was to start in multiple use management planning for the Intermountain region. He held another supervisor's meeting, and I was again called on to explain what the planning consisted of and give examples. And surprisingly then, all of the forest supervisors accepted the concept. This was six years before; no, this was four years before the Multiple Use Act was passed by Congress. I felt that the Forest Service sort of pioneered the way in this concept of management. And also we made environmental impact analysis at least five years before the passage of the Environmental Policy Act or the creation of the Environmental Protection Agency.

### **CAPTAIN WHITTELL'S DEVELOPMENT OF RENO BOWL HIGHWAY**

Going back to 1952, Captain Whittell asked me to find him a custodian to live at his place at the Lake, and I recommended to him Admiral Crenshaw, who had recently retired as commander of the Hawthorne ammunition depot. The Captain was a little hesitant about having an admiral workin' for him, but I explained to Captain Whittell that Admiral Crenshaw was a little different than some, and wouldn't stand on protocol, and didn't mind getting his hands dirty.

Elizabeth Crenshaw, his wife, and I at that time began to talk about the formation of a chapter in the Sierra Club on the Great Basin side. We were both members of the club, and there were just a few others, perhaps barely enough at that time for a chapter. Mostly through her efforts it was organized, and I was honored that they named it the Toiyabe Chapter.

In my acquaintance with Captain Whittell and being able to see him caused a little bit of notoriety. He was a recluse. There were only four people in Nevada that he would see; in addition to me was Governor Russell; his doctor, Fred Anderson, member of the Board of Regents; and his attorney, Paul Laxalt. But the Captain was always suspicious of attorneys and a little skeptical of doctors [chuckles]. Governor Russell and I took turns getting right-of-way for the Highway Department. Later I will mention that (page 325) he got the easement for Cave Rock. It was then my turn, in 1959, to obtain the right-of-way across his land for the new Mt. Rose highway. We were anxious to see it completed by early in '60, Reno Bowl being an alternate site for some of the events at the Olympic Winter Games. With a little delay and my consent to take the responsibility in case the state or the



contractors caused damage to his adjacent lands, he signed a right-of-way agreement—five miles, a hundred feet wide for \$22,000. I didn't do as well as Charlie on the price, but prices were goin' up [laughs].

He sent me the whole bundle of maps and forms to review before they were to go to the state Highway Department, and in this bundle was the right-of-way for Highway 50 over Spooners Summit that had been constructed about five years previously. So, I included that. We got two rights-of-way for two different highways at the same time. I might say too, that Spooners Summit, Highway 50 project, was the first limited access highway right-of-way granted across national forest land. That was before the National Transportation Act was passed. And no one in the Forest Service had the authority to issue such an easement. Well, I told the regional forester, since nobody had the authority, how about me doin' it? And they said, if I want to stick my neck out, go ahead [laughs]. And I did, because it was ridiculous to hold up a construction of a highway because of the technicality.

Because of my acquaintance and being able to see Captain Whittell, others found out about it, and quite often I was asked to do something for them, in connection with either the use of his land or other schemes that they might have. I can see why a wealthy man has to keep up a front. One day Joe McDonald called me and said that his son, Bob, and Alan Bible, and Gene Empey wanted to lease Whittell's lodge and resort at Zephyr Cove. And since none of them could even talk to the man on the telephone, wondered if I could help them. I told Joe that I'd be glad to do it for Alan and Bob and Gene, if it was for them, but I didn't want to do it if it was for one of their clients. Well, Joe assured me that it was for them personally. So, I saw

the Captain and recommended 'em. I had a little for-the-good-of-the-service motive; I wanted to see that resort in good hands, rather than to have it turned into a honky-tonk or underworld place. The more I talked with the Captain about three prospective lessors, the more he became in favor of them. However, soon afterwards, when Alan was elected to the Senate, he dropped out as one of the partners.

In 1954, the city of Reno, especially the Reno Chamber of Commerce, prepared a prospectus to serve as a bid to get the Eighth Olympic Winter Games to be held in 1960, at Reno Bowl. We worked together on the proposal and then sent several representatives back to New York to meet with the committee. And Alex Cushing, who owned and operated Squaw Valley, was a little jealous. So he also made a bid, and then Reno very wisely withdrew and did everything they could to help Cushing get the games at Squaw Valley. As a result, Reno enjoyed all the benefits of having the games in the vicinity and practically none of the expense. Although the state of Nevada Legislature did appropriate \$200,000 for a Nevada shelter at Squaw Valley. And too, Reno Bowl was selected as an alternative site for some of the longer downhill races. So that required the construction of the Mt. Rose highway that I had mentioned previously.

Nevada received about a half a million dollars forest highway money per year. In theory, it's for high standard, later state maintained roads to serve the national forest; sometimes farm-to-market; or sometimes a good highway to haul logs from the woods to the saw mill. The supervisor of Nevada Forest and the Humboldt Forests were not paying much attention to this type of road construction funds, and I'll admit that I was getting Nevada's share in and across, nearby

the Toiyabe. That situation changed a little later when the Humboldt and Nevada were consolidated and the new supervisor, Slim Hansen, was givin' that type of funds more attention. And then the chickens came home to roost with me when the Charleston Mountain district was attached to the Toiyabe. We had to then shift some forest highway funds to this district to build an important link between Kyle Canyon and Lee Canyon.

On August twenty-seventh of 1954, the Reno Bowl highway was dedicated. I mentioned that I hoped to have one at the time they built the lower lift; and present for the Archives a picture of some of the people that attended the ribbon cutting. This highway was constructed out of state highway funds, because the forest highway funds that I had acquired for the project could not be obligated until the condemnation was settled in the supreme court allowing Washoe County to take lands for recreation purposes. So, the forest highway money supposed to go for the project we transferred to the construction of the second tunnel at Cave Rock, at which time Governor Russell had obtained an easement from Captain Whittell for the big sum of seven dollars, in order to have a place for the material from the tunnel to be leveled out at the edge of the lake, which makes the present Cave Rock boat landing. I thought of recently what a difficult thing that would have been to do now with the environmental policy act and the Tahoe Regional Planning Agency ordinances. But anyway, it did provide and has been used ever since as an excellent parking area and boat launching spot.

#### ORGANIZATIONS AND FOUNDATIONS

In 1956, Buck Wheeler and Olga Reifschneider and I served as a committee

for the Girl Scouts in connection with their camp on Meeks Creek, west of Lake Tahoe. The board and the director wanted to establish a Hoover memorial forest, and we thought that was an excellent idea. I surveyed the lines so we knew where their property was located, and then the three of us went onto the area. Olga and I made a plant list that was required, and Buck made a list of the animal life, fauna and even insects. I think I can speak for the others, we were disappointed that this didn't go through. Later the Girl Scouts sold the land. I think it was a serious mistake. The Fleischmann Foundation made a grant to buy it. It was, to me, a beautiful place for a Girl Scout camp. But they didn't want to face the annual maintenance requirements and thought they sold it for a good price. But I told them not to unless they found a better place for the money. But they sold it anyway, and now about their only place to camp is when the Fleischmann Boy Scout camp is vacant, up by Mt. Lassen.

In '57, the legislature created the Department of Conservation and Natural Resources, which was another step forward in the state meeting their responsibilities for resources other than those that are on federal land. And happily, Hugh Shamberger was made the new director, and George Zappatini became state forester in a separate division within the department. The state, to me, was really then off and running for the protection and management of natural resources under their jurisdiction.

During the time Cliff Young was congressman, he gave strong support to appropriations for watershed research by the Forest Service, and in one bill, was successful in having funds earmarked for research on the Truckee River watershed. (Might mention a little bit about earmarked funds. The chief

of the Forest Service has an abhorrence for earmarked funds, because they'd rather allocate the appropriations according to national priority, and by the same token, the regional forester doesn't want to be told how to judge priorities in allocation of funds within the region, or I should say, he and the director of the experiment station.) But anyway, Cliff had some of the appropriations specifically designated for research that we needed here. I had impressed upon him previously that we knew so little about watershed management and the control of wet-mantle floods. Previously, I mentioned dry-mantle floods, which are the result of intense summer rains on steep mountain slopes. But wet-mantle floods are those that originate in the winter by rain on snow. [Dry-] mantle floods can be pretty well controlled, as was obvious in Davis County, by terraces. But we knew nothing about controlling the winter floods. Terraces were not suitable because they filled with ice and snow and would lack capacity. We had no idea of what type of vegetation is best on the watershed for wet-mantle floods. Whether brush fields, second growth conifer timber, or mature, mixed conifer timber, any could be the best cover, but we didn't know. Consequently, I declined from selling some virgin timber on the watershed tributary to the Truckee, until we could find out. So this increase in research fund made it possible for a watershed hydrologist to be assigned to the Truckee with headquarters here in Reno. I'll mention a little later the association with the University.

In the meantime, as a starter for this research, we used some meager forest service funds for the installation of a stream gauge on Dog Creek. You might say it was a little bit as bait, but no one had any idea what the Dog Creek watershed yielded in runoff, either by floods or by normal flow. Later

on, after research was in full swing, four more gauging stations were placed on upper tributaries above the gauging station that we had constructed below the valley itself.

In 1958, when the Max C. Fleischmann College of Agriculture building was completed, the Forest Service research officer was provided offices in the new building; and one extra room was assigned to me. Although I had a supervisor's office, I wanted to be closer to the University, especially in my state-relation assignments and also to be closer to the research branch of the Forest Service.

Beginning with this period with the proposed Great Basin National Park, I had more state relationship beyond that of the Toiyabe, and Ed Maw, the assistant supervisor, to quite an extent had the administration of the forest.

In 1955, I became interested in the Sierra Club and attended their "wilderness conferences" that the club and the National Wilderness Society held every two years. In '57, I attended the conference again and was on the report and record committee. Our task was to summarize each paper that was presented or to prepare an abstract, so that it could be published and also presented at the conclusion of the meeting. I guess they were pleased with my committee work, because in 1959, I was designated chairman of the reports and record committee; and had the responsibility for briefing the many, good papers that were presented.

One of the most difficult ones to abstract was that presented by F. Fraser Darling, one of the world authorities on elk and wildlife habitat from Scotland; the author of the exhaustive book titled *Red Deer*. As you know, red deer in Scotland are elk. His paper was so beautifully written, and to the point, and very scientific, it was impossible for us to abstract it down to about six lines, that we were able

to do for the other speakers. So we used his previously prepared extract, a copy of which I provide\*, in his very learned discussion, or his observations of some conditions in the Sierra-Nevada—abuses and habitat for animals and various conflicts.

At this 1959 meeting, I met for the first time, Virgil L. Fischer, who became one of my most cherished friends and associates. His hobby was mountain climbing, which coincided to some extent with my feeble ambitions. Virgil had the same philosophy about national parks that I had. We were both multiple-use advocates, although he was a life member of the Sierra Club. I provide for the files a copy of a reprint by him titled “Formula for Mediocrity,” which was published in the *American Forest* magazine, regarding the Great Basin National Park.\*

In the following years, Virgil and I would climb some mountains, and discuss a wide [range of] subjects of from multiple-use to technical botany. He was quite good at plant identification. We climbed Mt. Tallac, Mt. Ellis, and Sierra Buttes in the following years. Virgil originally lived in Portland, and moved to Las Vegas to spend the winters, and then had a home at Lake Tahoe, where they escaped the summer heat. When we’d be out hiking, I’d pick a wildflower to dissect it or to discuss its scientific name, and Virgil always objected to me disturbing the flora. But I always felt, and I still do, that if we can allow sheep and cattle to graze on the range, I don’t think it’s causing a diminishing species by picking a wildflower or even a modest bouquet.

Later, we served in various capacities in the Nevada Wildlife Federation, and up ’til January 5, 1975, we were on the Bureau of Land Management Multiple-use Advisory Board—, UNR Library he representing recreation and I representing forestry and fire. I’ll mention that board later on, too.

In 1956, Joe McDonald retired as editor and local head of the Reno Newspapers. And immediately upon retirement, the Fleischmann Foundation asked him to start an organization aimed at the protection of Lake Tahoe and getting some control or regulation of the lands, because as I mentioned previously, Max Fleischmann was concerned about the future of the Lake, and the trustees shared the same concern. So I began working with Joe, talking many hours as to what approach might be taken. As a result, the Lake Tahoe Area Council was created in 1958 as an organization whose primary objective was to correct the existing threats to the Lake, and assure possibly even improvement, to the watershed tributary to the Lake, with foremost priority to maintain the Lake in its pure condition. At that time the water was pure enough to drink without treatment. And I’m glad to say fifteen years later, it still meets these standards.

One of the preliminary organization meetings was chairmanned by Joe; Harry Marks, retired San Joaquin Valley city official; Barney Lowe of the Sierra Pacific Power Company; Bill Harrah and one or two others attended the meeting. And that was the time I became acquainted with Mr. Harrah. I was rather amazed that a man with two casinos going twenty-four hours a day, every day of the year, would take his busy time to help organize the Council. He was just as concerned about the sanitation of the Truckee watershed as he is in his kitchens or other parts of the casino.

The Fleischmann Foundation was the primary contributor of funds for the Council, but the First National Bank, the Sierra Pacific Power Company, and Mr. Harrah also for

---

\*See Sack papers, UNR Library

years, contributed substantial funds for its support.

In the first formal meeting, I was appointed chairman of the operations committee. I wasn't quite sure what that meant. I knew what Naval operations meant, and I knew what operations in the Forest Service consisted of [laughs], but to be chairman of the operations committee for the Council was rather vague. But I soon found out that this committee was primarily concerned with any projects that the Council might choose to inaugurate. And through the years, and I'll mention more later, we seemed to have numerous projects going continuously. A little later then, I was elected to be chairman of the executive board of the Council and chaired this until 1967, when I was forced to diminish my participation with the Council because of pressing business in Reno.

One of the foremost projects was the water quality report, a summary of which I'll provide for the Archives; also a land-use plan for the Basin prepared by a consulting firm, and along with that was the first Forest Service multiple-use management plan for the Tahoe Basin, and I happened to be chairman of that committee that prepared that plan.

I would like to mention some more about the Lake Tahoe Area Council. We set up some principles or guidelines, and as chairman of the executive committee, I tried to adhere to our objectives. One was that the council could do no lobbying. Since it was financed earlier to almost the full extent by the Fleischmann Foundation and a little later, the [Luke B.] Hancock Foundation, their grants certainly could not be used to lobby in either the state legislatures or Congress.

Another guideline was to confine our activities to the Lake Tahoe Basin. Quite often there was a temptation to expand to areas such as Squaw Valley, but I felt that the patrons and

the foundations that granted the funds did it for Tahoe Basin and not try to expand to other parts of the Sierra.

The council had no intent to be another form of Chamber of Commerce. We weren't at all interested in trying to attract more visitors to bolster the economy in the area. In fact, the more visitors there were, the more aggravated our problems became. We had an objective of confining gaming to an area within a mile of the state line at each end of the lake. I'll get into cities at the north and south end of the lake later on when we discuss the Tahoe Regional Planning Agency.

Then there always seemed to be minor issues that would come up that I felt that we were dissipating our time at the expense of more important things. For example, some members objected to searchlight or beacons flashing at night from casinos. To me, this was rather insignificant as far as protecting the purity of the lake was concerned. Lights could be considered as a form of air pollution, but it only took a flip of a switch to end this threat to the environment, while other developments were really endangering the lake by accelerated eutrophication.

We supported public acquisition of lands in the Basin outside of the commercial areas that had been zoned by our master plan; and felt that the main solution to the problem was public ownership, rather than to allow subdivisions and other forms of development on the wild lands. We even prospected the possibility that it be a national park or a national recreation area under the Department of Interior. At one time, Secretary [Stewart] Udall, during the Johnson administration the secretary of interior, came out to review the situation with us. It was just before he was going to climb Mount Fuji in Japan, so he wanted to get a little hiking experience. And so I went on a hike with him.



The other members declined, and some of the media reporters wished that they had, because it was difficult to keep up. The secretary indicated to me that it was about thirty years too late to consider Tahoe as a national park. I was glad to hear him say that. But he did ask how the privately owned lands were ever acquired. I explained to him the railroad grant from the old Central Pacific Railroad, the twenty miles on each side of the track reached about the midpoint along the shore, north to south of the lake; and also there were some homesteads; there were some state grants when the state received statehood; and some land was obtained by the Timber and Stone Act. I was rather surprised that the secretary was not at all familiar with this act [laughs], so, I explained to him that at the time of the original Homestead Act in 1862, there was no provision for the local people to obtain timber or stone from the federal lands. So Congress passed an act allowing 160 acres of timber or quarry lands to be sold to local individuals for two dollars and a half an acre. This act then, as far as national forest land was concerned, or what was within the boundary, was repealed by the Organic Act in 1897.

Well, none of these means ever finalized, and now it isn't necessary. The two states have acquired large tracts for state parks, and the Forest Service has consummated several purchases, each of about 10,000 acres. So, the public ownership now in Tahoe Basin has reached almost sixty-five percent. A few more well located purchases, I feel, will alleviate the problem of pollution or contamination of the lake and will keep the wild lands in their semi-natural state. I say semi-natural because hardly any of the Basin is pristine or virgin. Almost all of it was logged for timber to be used at Virginia City in the Comstock days; and then without fire protection following the logging, much of it has burned. Nature has

been very generous in restoring the conifer timber to the Basin. A layman, in many cases, doesn't realize it was abandoned, cut-over land at one time.

In 1955, Gil Doll, assistant supervisor, was promoted to be supervisor of the Ashley National Forest, headquartered at Vernal, Utah. I was very proud of Gil and happy that his abilities were recognized and to be promoted to a position parallel to that of my own.

I seem to have always been an advocate of wilderness. And as an example, in 1957, we reclassified the Hoover Primitive Area to that of "wilderness." And with the chief's approval, so that it was to be automatically included in the wilderness system, when the Wilderness Act of September 3, 1964 was passed. That same year, '57, the Las Vegas district of the former Nevada Forest was transferred to the Toiyabe, because the Nevada Forest then ceased to exist, the other units of it becoming a part of the Humboldt. So this meant that about once a month I had to go to Las Vegas on Forest Service business, as a new experience, and rather difficult to get acquainted with people in conservation in this gaming capitol. It seemed that people I'd meet one month, the next time I'd go down there the following month they'd be gone— all new faces, have to get acquainted again. I started then working, too, with the Boulder Council of the Boy Scouts. They had a summer camp on national forest land. And we started them out in a project to construct a trail from their camp towards the summit of Charleston Mountain. Several years later, the Secretary of Agriculture gave them special recognition for this project. I had the pleasure to present the award to the council at the regional meeting in Sacramento.

Remember one fire. And it seems like there were many fires on Charleston



Mountain. I had our administrative assistant go to the fire to be sure that they were getting what they needed. And it was a long ways from any source of supply. They needed a chain saw and some other hardware. So he called the hardware dealer at midnight to ask to buy a chain saw. Well, to buy a chain saw in Las Vegas at midnight really aroused the dealer's suspicions [laughs]. That's an unusual request. So he got the sheriff to go down to the store with him, and he opened it up. But they had no chain saws, but Al was able to buy some of the other tools that we needed on the fire.

This same year, 1957, we finally consummated the purchase of a hundred and sixty-three acres on Mt. Rose, the divide where the present highway traverses. In connection with the construction of the new Mt. Rose highway, we discovered that it would cross about a half a mile of land belonging to the El Dorado Wood and Flume Company. So we needed a right-of-way. But no one knew who the El Dorado Wood and Flume Company was. On doin' some research, I found out that it was a corporation that had been dissolved in the '40s. Then there were two living, former directors—a Mr. [Duncan A.] McLeod and [James] Yerington. These were also big stockowners in the old V and T Railroad. So I went to Mr. McLeod in San Francisco to see if we could buy the land. He had been trying to settle the Hobart estate for years; by some way the flume company's assets went over to the Hobarts. He had no idea that they owned the land, so he was willing—glad—to sell it. [Laughs.] And I offered him five dollars and fifty cents an acre for it, which he agreed to. But then we had a problem of him conveying title. At this time, Mr. [James] Yerington died, so there was only one former living director, and that wasn't sufficient to satisfy the federal government in conveying

title. So, we started to go through a friendly condemnation procedure to satisfy the U. S. Department of Justice. In order to have condemnation, I had to obtain the consent of the Washoe County Commissioners. They studied it a bit and found out that no taxes had been paid on the land since it was patented back in the '70s. So they thought it could easily be tax-delinquent land that was already the property of the county. But there had never been any record that a tax bill or notice had ever been sent [laughs]. So, they agreed with me, it'd be most simple if they'd let us go ahead—we had some acquisition funds—rather than to have them to go through a tax-delinquent procedure. But still, there was a long delay with the Department of Justice. And time was growing short in order to get a right-of-way across that land for the Mt. Rose highway, that we wanted to have complete by the beginning of 1960 as a link between Squaw Valley and Slide Mountain for the Olympic Winter Games. It happened that an attorney with the Department of Justice came to Reno to a meeting from Washington, and brought his family with him on the trip. I got acquainted with him. And I took him and his family up to this land on Mt. Rose for a picnic and explained our process and problem, and in six weeks, when he went back to Washington, we gained title to the land [laughs]. It is a beautiful tract. One part of it you can see the lights of Reno at night, and the year I retired, we developed a nice twenty-unit campground on the area just off the new Mt. Rose highway. It's an elevation of about 9,000 feet, so the season is rather short. But it is a good retreat from the heat in the valley during July and August.

In the '50s, there was a mountain pine beetle infestation building up in the vicinity of Incline. At this time, the land was owned by Captain Whittell, and I discussed it with him

on several occasions. He was more concerned about the insect-killed trees burning than he was actually the attack of insects. But in '58 it almost reached epidemic proportions. So, we prepared, I think, one of the most complicated, cooperative arrangements for the control of insects ever conceived, at least in [chuckles] the West. The Fleischmann Foundation made a grant through Joe McDonald's Tahoe agency. The state forester had a little insect control money. I was successful in getting about \$30,000 Forest service insect control funds. And Captain Whittell agreed to let a timber company have the infested trees for lumber. So with that agreement prepared, we went ahead and eliminated, cleaned up about twenty-five hundred western yellow and Jeffrey pine trees that harbored both the western pine beetle and the Rocky Mountain pine beetle.

One of the reasons Captain Whittell was willing to participate, I believe, is because I told him that he had lots of friends in the woods there—the birds were doing all that they could to control the beetle, but it was just out of hand for 'em. [Laughs.]

A forest supervisor in his administration of, oh, a hundred to maybe two hundred people, especially two hundred in the summer, always has a certain amount of personnel work or some personnel problems. Almost every Forest Service person is a conscientious, hard-working, dedicated individual. But once in awhile, a problem develops, a conflict of personalities. However, two of the incidents that sounded like serious problems were not the fault of our people at all. And I'll take time to go into this detail.

In April of '56, I was in Boise attending a budget meeting and got an urgent phone call from the Ogden regional office to tell me that one of our employees tried to kill a man, and the district ranger was a conspirator in this effort. The ranger was Jack Buckhouse,

and the employee was Herman Schapals. So, I drove direct from Boise to Tonopah; found out that the case had even, as a preliminary reached the state attorney general. So I started investigating, talking to everyone that knew any of the three. It seemed that Tony (last name I don't recall), the alleged victim, was an old, alcoholic miner at Round Mountain. And our man, Herman, also lived in the vicinity. Tony got pneumonia, and Herman took him into the Nye County hospital at Tonopah. On the way in, Tony gave Herman his watch and seventy dollars because he didn't want the hospital to know that he had any assets. Well, several days later, Tony was apparently delirious, either with the DT's or with pneumonia, or maybe a combination of both, and wanted Herman to give him back his money. He didn't care so much about the watch. Tony wanted some money so he could try to bribe a nurse to get him a bottle [laughs]. Then Herman wasn't gonna give him his money without a receipt. Well, Herman was trying to talk to Tony in his delirious condition, and our ranger was just standing at the doorway into the room where Tony was in bed, so Tony, with a hallucination, thought Herman was there to kill him and that Jack was standing at the door to keep a nurse from helping to save him. And I'm sure that through the rest of Tony's life, he's convinced of that as well as I am convinced that Herman and Jack were absolutely innocent of the case. Soon afterward Tony left Nevada. A few years later Herman was killed by an explosion. He had stored dynamite in his cabin. A fine, polite old gentleman who had served in the German army during World War I. A week before his death I visited him at his cabin. He was a bachelor as far as we knew, why he migrated to Smoky Valley was a mystery.

Another personnel situation happened several years later when I got a direct call

from Senator Bible in Washington—and that’s rather unusual. Usually senators talk to the chief, and then the chief to the regional office, and then to the supervisor. But perhaps [with] our friendship, this went direct. And the senator told me that he had received a report that one of our rangers was moonlighting and tending bar at Scotty’s Castle in off-hours from the Forest Service. Well, we had a ranger at Las Vegas, and one at Tonopah, and one at Bridgeport. Each about a hundred and fifty miles distant. So I told Alan that there was nothing to it, that it was impossible.

“Well,” he says, “are you going to investigate?”

I said, “No. In this case it’s so absurd, an investigation isn’t needed.”

“Well,” he says, “I’ll take your word for it.”

But I did, the next time I drove to Las Vegas, I stopped or went by the way of Scotty’s Castle—I’d never been there before—and found there isn’t a bar in the place. It’s a religious youth group establishment. The only thing I could figure out was that a part-time park service employee that worked in the wintertime, might have been a bartender at Furnace Creek during his period of unemployment in the summer.

The usual, scheduled, general integrating inspection came again in 1956, and to prepare the inspectors, I wrote a summary of the complexities of the Toiyabe National Forest and provide a copy of this to the Archives.

\* \* \* \* \*

In the summer of 1959, we and Dr. [William R.] Wood, acting president at the University here, heard that the College of Pacific was trying to get a donation of land at Incline on which to develop a summer music school. Dr. Wood was rather concerned about a state institution in California coming

over into Nevada. So, we got together and discussed it and then went up to the lake, and on our tour decided that it would be a good thing for the University of Nevada to make a proposal to Captain Whittell for a grant of his land in Ormsby County, to the University for an outdoor field laboratory. Bob Laxalt prepared a beautiful brochure. And with the help of Charlie Russell and my contacts with Whittell, on December 31 of that year, he donated twenty-five hundred acres of his land in Little Valley to the University, in accordance with our proposed use.

Two years later, in 61, President Armstrong set up a board of control for the Whittell Forest and asked me to serve on the board, which I did for about the next five or six years. But I seemed to always be in a minority. The others wanted to acquire more land, and make a wilderness for the whole area while I wanted them to become acquainted, to find out what land they had already—never been surveyed. They asked me, as supervisor, for some more land, and I asked them what they wanted to do with it, but they had no plans. So with all their energy directed towards trying to condemn other ownerships and enlarge the area, the University lands were somewhat dormant in use. Although DRI did some research there, it’s only recently, that is 1975, that they are now beginning to make use of the land as we had envisioned it in 1959.

The following year, 1960, I took my family on our most extensive pack trip and went to Paiute Meadow, south of Leavitt Meadow just off from the Sonora Pass highway. My daughter grew up with horses, and she could just about ride anything that could be bridled, but my son didn’t want to ride anything that didn’t have wheels on it. Anyway, we had a good weekend except the mosquitoes were bad. And I found the trails in such poor

condition, that I spent most of my time doing trail maintenance.

Speaking of mosquitoes, it's either I've become more sensitive to them, or they have increased. I don't recall in 1930, '31, '32, in the Sierra, of being bothered by mosquitoes at all. But in '60, they were terrible. And I'll mention in this same year, two weeks later, some more experiences with them.

The middle of July of '60, I signed up with the Sierra Club to go on one of their high Sierra trips, starting at Virginia Lake southwest of Bridgeport and ending up in Buckeye Canyon, west of Bridgeport two weeks later—a map of our route I will provide. There were a hundred and twenty in this group, and I went along for two reasons. One was, I wanted to sort of be a host while they were in the Hoover Wilderness area of the Toiyabe, and then I wanted to travel with them over into Yosemite National Park to learn something about the park rangers technique in interpretive service. I'd heard of nature walks and guided trips with talks about the flora and the fauna, either during the day and also around the campfire at night. This motive was a complete failure. On the entire trip, we never saw a park service person. So, I [laughs] ended up being a pro tem park naturalist. I was able to tell them what most of the flora was, but I'm a terrible ornithologist. I've been guilty of being asked what a little bird was in the top of a tree, and having to pretend that I couldn't see it, 'cause if I could I wouldn't have known what it was [laughs].

There was one observation that I made and explained that I've never seen in the literature—it might be worthwhile mentioning. On Matterhorn Creek, in the lower portion of the slope towards the west, apparently there was a large forest fire several hundred years ago in a stand of

western white pine, *Pinus monticola*, and mountain hemlock, *Tsuga mertensiana*. And following the fire by succession, a dense stand of lodgepole pine entered the previously burned area. Then in the '50s, an epidemic of pine leaf miner, an insect that sort of hollows out the needle and defoliates the tree, attacked many trees and as a result did a natural job of thinning. I was somewhat alarmed about this needle miner coming over the divide into Toiyabe, especially in the vicinity of Green Creek and Green Lake, but I've never heard that it extended beyond the summit.

One event while I was with the group in Yosemite National Park, I climbed Crown Point, which is just over the line on the Toiyabe, to try to determine a location for a Forest Service trail from Barney Lake up Robinson Creek to Crown Lake, and then on to Snow Lake, and then approach the boundary of Yosemite National Park. This is extremely rugged country. The east slope being much rougher than that of the west slope that included Yosemite National Park. I visually determined where about the trail could go, judging by rock formations, and then later with the help of engineers and the use of aerial photographs, we did locate a feasible route for the trail, and the trail was completed by contract in 1964. Incidentally, on Crown Point, even above 10,000 feet, the mosquitoes were terrible.

With this group of a hundred and twenty members of the Sierra Club, I was impressed with the fact that the mass of the club or the hundred and eighteen of the hundred and twenty were not concerned at all whether they were in a national park or a national forest; they were enjoying the out-of-doors in the wilderness, and it made no difference to them which agency was the administrator or what the status of the land might be.

In my opinion, some of the most scenic country along the boundary between Yosemite and the Toiyabe is on the Toiyabe side. For example, Summit Lake and Snow Lake are only about a quarter of a mile from the western boundary and were in the Hoover Wild Area then, now Hoover Wilderness. Then to me, Pealer Lake is my favorite high mountain lake, my choice of any mountain lake I've ever seen. And a strange thing, it is in within ten feet of the divide, within ten feet of Yosemite National Park boundary. In fact, there's evidence, perhaps during the ice breakup in the late spring, the water has flowed both directions— through Yosemite to the Pacific and to the east into the Great Basin. This trail that I mentioned will give better access to Pealer Lake as well as the other Crown, Snow Lakes.

#### **DONNER RIDGE FIRE 1960**

1960 seems to be a big year. The Donner Edge fire started, I believe, on the eighteenth of August. On the twentieth of August, I saw smoke up towards Donner Summit and asked Van, our dispatcher, about it. And he said that the Tahoe had a forest fire there and another one at Volcano Creek. But they hadn't called on us for help, except they wanted a caterer from Reno to go over and help feed the firefighters. So I didn't give much more thought to the fire, because it was so far away from the Toiyabe. So the next day, Sunday, I went to Mammoth Lakes with Dean Scheid of the Mackay School of Mines to prospect for a water well on the Inyo National Forest. I noticed that the wind blew very hard that afternoon. But usually fires on the east slope of the Sierra rarely are major or large, after the middle of August.

On our return to Reno that night, going through Minden and Gardnerville, we noticed

that the town was dark and just assumed that there was a local power outage. When we got to Carson City, it was dark, too. So we begin to wonder if there might be a blackout because of a warning of attack by "the enemy." But going on a little farther, we could see a bright glow in the west towards Truckee. And that was the signal then, for me to go to our fire headquarters, the dispatcher's office, and then I learned about the Donner Ridge fire burning in our direction. Also that afternoon, we had a fire at Scott's Lake. Of course, Reno was dark as well because the wooden pole line west of Truckee had burned. So all of the area served by Sierra Pacific Power Company was without power, and they were for twenty-five hours. So the supervisor of the Tahoe had two fires, I previously mentioned Volcano and then Donner. And the Toiyabe supervisor had two fires, Scott's Lake and the threat of the Donner fire coming. So we sort of had our hands full. I never especially worried about one big fire at a time. I felt that we had the manpower and equipment to cope with one project fire. But then when you have more than one simultaneously, there's a tendency to cause gray hairs [laughs] for the supervisor. It's more than scraping the bottom of the barrel; it means calling for forces from remote areas.

This fire, then, came into the Toiyabe about two o'clock Sunday night, near Second Summit. we were able to cut off the head of it that night and early the next morning. But the fire had run so rapidly across the Tahoe forest, they couldn't catch up the flanks that were almost fifty miles in length. So as the flanks spread out, then the head of the fire became wider.

With the lack of power on that Sunday and then the heavy pall of smoke, and ashes dropping in Reno, it was considered a very serious state emergency. And on August the twenty-third, Governor Sawyer came to be



briefed on the situation. Then I took him and the media (all three— television, radio, newspaper people) with the National Guard out to inspect the situation on the ground. I submit a picture\* of the fire taken about the time they made the visit. It looks rather awesome, but it points out several things that I think now I ought to mention. The lack of heavy ground fuel and snags kept the fire from crowning in much of the Dog Valley watershed of the Toiyabe. The reason there wasn't much heavy fuel or snags is because the Air Force had been training for survival and rescue in that area for about eight years, and in their little campfires, had used up most of the dry wood material even to the point that they asked us not to issue free wood permits to Reno people for their winter fuel supply to take home.

But with the governor, I did see something I didn't like. It worried me. We went along the road across Dog Valley from the south towards the north and noticed that the night crew didn't have time to burn out from the road, and I was afraid there'd be some spot fires later that day. I didn't tell the party, because I still was confident that the fire wouldn't spread into Nevada. But it did spot over in two areas later on that afternoon.

Well, before the smoke had even completely cleared, we started rehabilitating the area. Our first step was to poison the rodents that might eat pine and grass seed. When this was done (then on the Toiyabe side, our policy was different than that of the California region), we planted grass seed by air, twenty-five pounds to the acre: twenty-three pounds of annual cereal rye; one pound of smooth brome; and one pound of orchard grass. We did this before the ash had a chance to set or firm up.

I might back up there a little, too, and say another thing that we did differently. We

did what you call a hundred percent mop-up within the burned area. Any groups or clumps of trees that hadn't burned, we put a line around inside the outer perimeter to save 'em; I felt it was better. It might cost more in fire suppression, but it would save much more in reforestation. The following spring, I think every grass seed that was planted, germinated. It looked almost dense enough to harvest rye or put up hay. Then we started to construct terraces on the steep slopes and furrows on the more gentle areas and plant trees. I submit a progress report on this rehabilitation work.

I might mention again, a case where a forest supervisor has public relations work to do on a big fire. Although Vic Goodwin was the information officer, most of his time was spent talking to reporters and radio stations. But on the twenty-fourth, the south flank of the fire was burning quite rapidly towards Verdi. As far as we were concerned, my strategy all the way through was to keep the fire out of the Truckee River Canyon.

The head of fire control in Washington was out there, and that afternoon when it blew up, why he said, "We just as well say goodbye to this fire. It'll run out into the Great Basin!" But I felt we had good hope, and we had excellent overhead from Idaho on the fire, and I wasn't quite so pessimistic. But anyway, Verdi had been burned out before, and they were a little bit on the edge of panic. The Civil Defense from Santa Rosa sent over a lot of fire equipment, but it wasn't any good off from the paved highways. So, with the cooperation of George Zappatini, we quietly deployed this equipment around through the community of Verdi, not movin' all at once to get them alarmed, but I think there was some piece of firefighting equipment in every block. And

---

\*See Sack papers, UNR Library



then I told the Verdi people that, “Tonight you’ll be able to see a little of the fire up on the ridge,” but for them not to be alarmed, that this was all according to plan.

I wasn’t too sure how good the plans were [laughs]. About that time though, people started makin’ a run to the dry ice plant, Sierra Chemical, by our dispatcher’s office. And we begin to wonder again what was up? Inadvertently, one radio station announced that the fire was comin’ into Verdi, and the town was being abandoned. So, the work I’d done before had to be done over again, to get the natives quiet. We were successful, and that was the last run of the fire and kept it away from town. But it is a worry; if Verdi people decided to backfire, it would have trapped our people up on the line between the main fire and their backfire. It’s always a danger. [And they were talking about backfire?] Oh yes. That’s loose and easy talk. Of course, a backfire is a misused term. A burning out of a line isn’t really a backfire. A backfire, theoretically, is when you run off through the country, [and] without any line or any means, you set the country afire hoping it’ll burn to the other fire. That isn’t an ordinary, usual practice, but if Verdi people got in a panic, they could have well set a backfire.

Then when I was discussing the rehabilitation of Dog Valley following the fire of August, 1960, I’m afraid I failed to explain why annual cereal rye grass was planted and broadcast from airplanes. The purpose was only to hold soil and provide sort of a nurse crop for the natural pine seedlings and the small transplants in the reforestation project.

At least that’s according to watershed hydrologists. But I had another motive, and I observed it as successful. I thought if we planted annual cereal rye, it would prevent the invasion of cheat grass, and this has

proven to be the case. We expected the rye grass to run out or diminish to a very small percentage of the cover in two or three years. It did, however, survive and perpetuate for more than five years. But now, fifteen years later, there’s very little evidence of it; although the smooth brome and the orchard grass, which were planted at that time as range species, has continued on, and the range is restored as well as the forest. Over a half a million pine trees had been planted since the fire, and there is a good resemblance now of a second growth yellow pine forest coming back. Some of the trees are up seven or eight feet in height. The planting done in 1951 on the Dog Valley fire that I mentioned that occurred in 1950—some of those trees now are over twenty feet high and fortunately, did not burn when the reburn of the Donner fire occurred in ’60.

Of course, all of this country, Dog Valley and on over into Tahoe forest in the vicinity of Hobart Mills, had been logged in the last hundred years, much of the saw logs going to Verdi mills. There was at least a half a dozen sawmills in Dog Valley at one time or another. And then near Hobart Mills, small mills there, in addition to large ones. As a result of the logging, a pure, even-aged stand of yellow pine came back naturally. This is somewhat similar to what happened in Tahoe basin following the logging for lumber used in the Comstock mines. I attribute the rapid spreading fire to this type of vegetation. If it had been an uneven-age stand of mixed conifers (that is, in addition to the ponderosa or Jeffrey pine, if there was white fir, incense cedar, and even perhaps sugar pine), such a fire would have not been so destructive. And I feel that we, in the past, have made a mistake in selection of species on recent burned areas. It seems to be always yellow pine planted again. The forester’s objective really is even-

aged, pure stands of yellow pine. But I'm not sure that it will be possible to keep such types from burning. I feel our cutting plans or harvest of timber should be designed towards a more of an uneven-aged stand of timber, with a variety of species.

#### OTHER ACTIVITIES OF THE 1960S

Immediately after the Donner Ridge fire, I was designated as a representative of Nevada to attend the World Forestry Congress in Seattle. The other two Nevada designees; was Hank (that's H. E.) Norton and Dr. Richard Miller. I'd never been to a World Congress before and was very impressed with the scientific papers presented from many of the nations of the world. I was interested in the Russian materials presented after translation. Actually, the chief of the Forest Service, Richard McCardle, was host at the Congress, and then his people in the Forest Service helped him in that capacity.

There was one, you might say, minor incident that greatly disturbed me, and that is the Sierra Club brought in a supply of pamphlets to put on the table with the other material. And the pamphlets were very critical of policies of the U. S. Forest Service. I thought they might have used them someplace else, rather than to embarrass us in the eyes of the world.

Soon after that, the Sierra Club got into a big controversy about requiring loyalty to the United States as a condition of membership. I never knew for sure just why that issue came up, but I didn't like the fact that it was voted down. And then an explanation for the result of the vote was that there's more important things that the Sierra Club has to be concerned with then than the loyalty to the United States. I may be an extreme in this case, but I don't think anyone should

ever hesitate to express their loyalty to our country or pledge allegiance. I might say, to some extent, that it also applies to some college professors who think their rights are being encroached upon by not wanting to sign a loyalty pledge. That may sound like "Stars and Stripes Forever," or appear as flag-waving, but that's how I feel personally. As a result, I dropped my membership in the Sierra Club. I'll pick it up later, but for the rest of the time I was in the Forest Service, I wasn't a member.

In 1958, the proposal for the Great Basin National Park was renewed. I participated in the controversy, helping to make an inventory of the resources of the area; both flying over it and traveling on the ground—getting a better idea of the volume of timber on Wheeler Mountain, more of an idea of the mineral deposits, the amount of hunting and other facets of wildlife.

About this time, Ed Maw, my assistant, was promoted to supervisor of the Caribou National Forest with headquarters at Pocatello, Idaho, so I felt I had another protege to be proud of.

Partly to give some idea of the significance of national forests in Nevada, as a counter towards a proposal for a national park, I submit a national forest basic fact report for Nevada, dated 1962. The previous mentioned article by Virilis Fischer\* quite well explains why there is pressure for national parks. Ely Chamber of Commerce wanted one to bolster their economy. I have always felt that that's a poor reason. If the area has national significance, that's spectacular, and should be preserved, then might qualify as a national park. Wheeler Peak had no such characteristics, in my opinion, that

---

\*Sack papers: "Formula for Mediocrity" by Virilis Fischer

would be any better off under preservation of the National Park Service than it was for fifty years under the Forest Service. Another comment often made, is (and this applies also to Idaho), “There isn’t a national park in Nevada or Idaho, so we should have one.” To me that isn’t valid logic either. Maybe Nevada and Idaho [chuckles] are better off since there aren’t any. I’ll go into Idaho parks later.

This same year of ’62, we put rustic signs along the Donner Trail, guiding the public for the portion across the Toiyabe. Then that summers I took the Reno Rotary Club over the entire distance, from Reno to Donner Lake, and tried to explain the events that happened along the route and the hardships that they encountered.

I was becoming more interested in history at that time. Several of the information-education inspections made by the regional office of the Toiyabe criticized the supervisor because we didn’t have a forest history. It’s true there was the atlas by William Mall, but that was about all. But I couldn’t find out from them what a history should consist of. So I got a little aggravated, and I thought, “Well, I’ll fix ’em up one” And I became interested in it, and in time, worked nights and holidays and weekends in preparing what I think resulted in a quite good history, for not only the forest, but the surrounding area arranged as topics chronologically.

Apparently the Donner fire of ’60 focused attention on the Toiyabe, and in 1961, the regional office financed a helicopter for us to be based at Markleeville. Lyle Smith, our fire control staff man, and I went down to Markleeville, and took a, you might say, a shakedown or a checkout flight from Markleeville over to Wheeler guard station and back. The pilot was demonstrating its capability. By that time, helicopters could

operate with a payload at much higher elevation. When he came over Markleeville, about two thousand feet above the town he put it in “autogiro,” and we came right straight down to the town, almost like goin’ down an elevator. It was a new experience for me, and I found out later, that’s only to be done in extreme emergencies [laughs]. That means where the engine isn’t running and the roto goes around by the pull of gravity.

Then in 1963, we assigned the helicopter to the Charleston Mountain district, because their fire season was earlier than the Toiyabe. Usually May and June is the worst time at that latitude, and then by the time our season is critical in the Sierra and central Nevada, southern Nevada is getting frequent thunderstorms with quite a quantity of rain. So then we’d move the helicopter back up here for another fire season.

’61, the Toiyabe experienced a record number of forest fires. We had a hundred and forty-four, but still held it to only 1,169 acres burned. That had been a dry winter. It’s rather amazing how the weather can have such direct influence on occurrence of fire, and also to quite an extent, on range production—although it takes several years of drought or several years of above normal precipitation to cause forage to respond, especially the perennial types. But even one good year helps. And as an illustration, in 1963 in May, recorded at Reno was 2.89 inches of rain, the most that had ever occurred during the month of May in the history kept by weather records. Consequently, that year we had the best fire season ever recorded. Only thirty-five fires and less than ten acres burned. So weather certainly does have an influence. We have to be careful and not say that the climate is changing, because I’m not so sure that it

is and wasn't able to prove it by comparing one decade with another. But at the same time, the weather from year to year certainly fluctuates and makes a great difference in the condition of resources and for that matter, the occurrence of fire. You can see that on tree rings where one year a ring may be a half an inch wide, and the next year it will be a quarter of an inch wide. Well it's obvious that the year the tree grew faster and made a wider ring, there was more moisture. This same year, the good fire record occurred.

Unemployment was becoming a serious problem in Mineral County, Hawthorne. The ammunition depot had curtailed to some extent, following the Korean incident. And it was before the Vietnam situation had developed. So, the federal government provided funds under a program they called Rural Area Development to help out the unemployed in the more remote areas. And it was this time that we received, I believe, about a hundred and fifty thousand dollars and developed the Alum Creek campground, southwest of Hawthorne. odd situation where there are nice, big, yellow pine trees growing almost within sight of the ammunition dump that nobody hardly knew existed before. Alum Creek came by its name rightfully. It had such a high content of alum that it was almost a desert. And no plants grew in the water, and there was no sign of bird or other animal life. I took a sample and had it analyzed at Nevada Environmental Health Lab and found that it had a pH of 3.5, which is just about as acid as anything can be in nature, as a liquid. I walked the length of the creek, trying to find fresh water one day, and I took a sample every few hundred yards. By evening, my mouth was so puckered up, I couldn't eat. However, we did find a spring a mile to the south and piped it into the campground.

At that same time, we were improving the Powell Mountain road—widening it. And we had several Indians from Schurz who were very good workers. One of 'em was setting a choker around a stump for the bulldozer to pull out, and he got his fingers between the cable and the stump and had two of 'em taken off. I was in Reno at the time. It worried me, and I rushed to Hawthorne, got there the next evening to see how he was doing; expecting to find him in the hospital, but he wasn't in the hospital. I found him in the school gymnasium playing basketball. And I asked him, "Doesn't that hurt?" And he says, "Only when the ball hits the stub."

I've enjoyed working with Indians: Paiutes, Shoshone, Washoe. Many are good workers, and like whites, there's some that are not so good. There's some that after their second paycheck, they're not too dependable, but there's others that are good workers. Avery Winnemucca, for example, painted all of our station buildings in central Nevada. I wasn't too sure how a Washoe would get along with a Shoshone, but then Avery wasn't so sure either. But there wasn't any uprising. I learned a trick from him. The way he did was to rub Bon Anti on the glass first and then paint around it, and then when he rubbed the Eon Anti off, it took any drips of paint and left a clean window.

Another Indian that I'd like to mention, too, that I'm very proud of, was Vein Newman. He started as a guard with us in Dog Valley, in about 1958 and has worked his way up as a scaler, and now he's on the staff in timber management. He's done this all on his own, 'cause the only education he's had beyond high school was a few courses taken at night. One incident in that connection I might mention. When he was a guard at Dog Valley, he had his wife, two little boys there.

And they had a TV, and the boys watched the wild west shows, and at night they were afraid to go out in the dark because the Indians might get 'em.

\* \* \* \* \*

In 1964, it was a fateful year for aviation on the Toiyabe National Forest. March 1, a Constellation crashed, took eighty-five lives, near Genoa Peak. May 26, they found a crashed plane southeast of Sand Harbor with three bodies. Later I will mention our loss on August 26. We had another close call on September 20: There was a fire south of Markleeville in Pleasant Valley about a mile south, air line. And we had TBMs from the Carson air attack center dropping fire retardant. And I was always anxious that they discontinue operation in the evening so that they would have time to return to base before it was dark. So I suggested they close down for the night. The ranger pleaded for one more drop—you never can get enough of that kind of material on a fire—so I yielded, and the TBM was flying over us in the vicinity of Markleeville, and I noticed black smoke trailing. I don't know if the pilot knew it or not. I radioed to him to jettison his load and try to make it to the Minden airport. He didn't reach the fire, and jettisoned the load and turned around and headed for the valley. If he'd've had any ridges to go over, he'd never have made it. As the plane disappeared in the horizon, it seemed to hover, climb a little, and then drop. But to my surprise, he didn't go to the Minden airport; he flew on over to Carson Center—fifteen miles farther. When he landed, the engine froze, never to fly again. The next day I asked him—the pilot—why he went back to Carson instead of the nearest field at Minden. And he said, "Oh, my friends are at Carson." [Laughs.] I felt as decrepit as

the old TBM. We were both of World War II vintage.

Another incident on this fire was the Markleeville people could see it, and they were quite alarmed. So I tried to placate the natives. I was sure it wouldn't reach Markleeville. They had reason to be scared because of the great Silver Creek fire that just missed them—in 1947. But this was in the fall and the fire had started later in the day, so to me there was no chance that Markleeville would be in danger. However, about two o'clock that night, a drunk went out on the main street and yelled, "The fire's away. Markleeville will be in flames before morning. So, I had to go back and relieve the anxieties again.

If a person is observing, I believe they can see something new on every fire. At least I feel that I did, and with all the previous experience, I observed something that had never occurred to me before, and I'd never seen it in any of the handbooks. And that is, bulldozers "walking" around the fire or towards the fire, (where they're not building lines) crush old, punky logs, especially that of white fir, and as a result it's kind of a fine, flammable powder. And then flying embers from the fire dropping on this pulverized punk, will start another fire even quicker than if they fell on pine needles or in grass.

I neglected to mention the flood of February 1, 1963. Through Reno, it crested about 15,000 cubic feet per second, which was considerably less than the flood of 1950 and '55. By that time, Prosser reservoir had been constructed, and after '63, the flood threat was further diminished by Stampede reservoir and Martis Creek, and channel work through Reno that was designed to carry up to 14,000 cubic feet per second. I'll discuss that a little later when we talk about Reno city parks.



Of course, there hasn't been any substantial burned areas on Truckee watershed since 1960, so the watershed is in better condition. And following the Donner fire there's been much planting and terracing.

Another item early in 1964 was the extension of the national forest boundary in Douglas county, signed as a public land order January 30. Douglas county commissioners were beginning to become concerned about subdivisions on steep mountain lands, especially on the slope into Carson Valley. So they advocated that the area be included within the national forest boundary so that the government could acquire these lands for watershed purposes, rather than for residential areas.

#### CENTRAL NEVADA

Now I'd like to talk about central Nevada in somewhat more detail. There are six major valleys adjacent to the Toiyabe National Forest. The forest in central Nevada consists of almost two million acres; and surprisingly in the last fifteen years that I know of, there are only two ranchers living within the forest boundary, and then one lone individual at the old county-seat town of Belmont. There were other homesteads within the boundary, but the people, after they proved up and obtained patent to the land, moved out into the valleys. However, the valleys are very sparsely populated, too, at the present time. I've tried to analyze why there are so few people living in central Nevada—you might say rural from the small centers of population. In White Pine and Lincoln counties, many of the ranchers are Mormon. And traditionally, they have larger families. For some reason or other, central Nevada wasn't popular Mormon territory. Maybe the mining element and the rugged cowboy atmosphere discouraged 'em.

There was one exception though; and that is in Monitor Valley (incidentally, Monitor Valley got its name from the circular plateau surrounded by rimrock that resembled the turret on the battleship Monitor—Monitor Range got its name from that source). But anyway, in 1951, the Robison brothers, Mel and Norman, bought a portion of what was the old Potts ranch. They were LDS, and they moved to the valley with their families; and there was sufficient children to have a school in Monitor Valley. They were very successful in operating the old Potts ranch and did so well that the wives then, wanted to move to town. So, the ranch was sold, and the two boys and their families moved to Reno. So that was the end of the school. And it's the only school in the valleys near the Toiyabe except the Yomba Indian school on Reese River.

Getting back to the population potential, it's surprising how many old bachelors lived in the area, or even some women that had never married. Or if they did marry, they had no children. Starting from the east the Antelope Valley (incidentally, it's appropriately named; once I saw a buck antelope in the valley, and I've always followed the philosophy if there's one, there's more than one), the Martins lived at Copenhagen Flat within the forest. Mrs. Martin was a widow and had two boys that run the ranch. The Seguras are the only other resident family in Antelope Valley. The only other ranch is on Highway 50, but it was owned by a nonresident, or a Californian. Then move around to the north, was Alma Woods's ranch. This is all in Eureka County. Her ranch is on Willow Creek. Alma never married. Moving on into the Toiyabe range west of Smoky Valley, the only other resident in the forest then is Joe Streshley, who is a bachelor.

There was a rather large family in Smoky Valley named Schmidtlein. Their ranch



included the land at the mouth of Kingston Canyon that recently has been subdivided by (without being insulting) I would say to some extent, land speculators. When the promoters asked me to be their consultant, I declined for several reasons. I wasn't greatly enthused with the proposal. At that period, second homes were a popular selling point for realtors. And in the last two or three years, with the change in the economy and curtailment of supply of gasoline, we don't hear so much about second homes anymore.

Anyway, I would like to mention one of the third generation of the Schmidtlein family. His name is Don and went to the University of Nevada two years, and then we employed him as a range aide at Austin. He discussed with me, one day, his desire to go back to college and get a degree and be a professional. I tried to encourage him, but I was a little bit skeptical that he'd do it. He had a wife and two children, and Don wasn't the strongest physically. But anyway, I told him if he did it, there'd be a place for him in the Forest Service when he finished school. So they moved to Logan, Utah, and he enrolled in Utah State University, majoring in range management. His wife got a part-time job, and I helped Don get a part-time job on the Cache National Forest, whose headquarters was at Logan. In two years, he finished as an honor student. And the last time I saw him was in Denver in 1970; and was happy to hear he has an important range staff job on the Black Hills National Forest in South Dakota, and is going up the career ladder.

There's another family in sort of central Smoky Valley, and that was the McLeods. The parents had five children, two boys, Charlie and Clarence; three daughters, Harriet, May, and Edith. Edith married Clarence Favre, who was the forest supervisor of the Toiyabe

just before me. All the children left the ranch, except Clarence, and Clarence didn't marry until late in' life, so they had no family. They were related to the Milletts, for which the abandoned town of Millett received its name.

Then a little farther south was the Emma Rogers ranch. She was a widow and left very few heirs.

While we're talkin' about Smoky Valley, Kingston Canyon is perhaps the leading tributary into the valley—the largest flowing stream. And then about halfway up this canyon is a old stone and log cabin that the locals say was one where Mark Twain had stayed. (I have tried to trace that down in reviewing his several books, and I can find no mention of it. I think if Mark Twain stayed every place he was reported to have been, he'da' been a steady traveler. The land between Kingston Canyon and Twin Rivers sloping into Smoky Valley is extremely rough. It has never been grazed by livestock because of its inaccessibility. There's some big bucks in the area, but they're just too hard to get out. And there is a remnant of the desert or Nelson bighorn sheep living undisturbed in this area, perhaps thirty head.

Going west to the next valley, Reese River, which is the only valley that has a discernible water course or drainage. It was named for captain John Reese, an early settler in western Nevada and sort of a surveyor and explorer. The Reese River is a sub-basin of the Humboldt River and has had a rather complete, cooperative survey and report made in 1963. Vic Goodwin was the historian on this project, so I'll try to avoid duplicating what he's written or contradicting him perhaps. After the Humboldt Basin survey was completed, then the cooperating team consisting of Soil Conservation Service, the Nevada Department of Conservation and Natural Resources and Forest Service moved

over to the Walker, Carson, and Truckee Basins and prepared a similar report of the water and the resources for this area, and history's also been recorded for it.

In 1956, the Reese River flowed sufficiently to join the Humboldt. This was a few months following the flood in Reno of 1955. The same general storms reached central Nevada and left a deep snow pack in the mountains and in the valley; and then in the spring when the melt occurred, Reese River reached the Humboldt at Battle Mountain.

Much has been written about the railroad from Palisade to Eureka and another from Battle Mountain to Austin. About the only thing I can add, since the railroad was abandoned and the steel taken out before I became acquainted with central Nevada, is that [I] did observe that the railroad ties on the Palisade-Eureka Railroad were of redwood, which is logical because the builders of the railroad came from near Redwood City in California, while the ties on the Battle Mountain to Austin railroad were of Douglas fir, indicating that they came from either northern California or perhaps Oregon.

Going then up Reese River, the Heath ranch is one of the historical locations near Nye-Lander County line. Irene Hayden was a Heath (and they ran sheep), and then when Irene and Jim were married, it was sort of converted to a cattle operation. And they never had children. Their cattle run up Tierney Creek on the Toiyabe range of the forest.

Reese River did have one exception in families. There were several O'Toole families, but one of them had, I believe, three or four, perhaps five children. Even the Indians at the Yomba reservation did not seem to be greatly prolific. There were enough there to justify a small government school.

Going on west then into Ione Valley. I've never been able to determine where the name

Ione originated. I think the valley got its name from the town, which was the first county seat of Nye County. There are no ranches in the valley—perhaps the lack of water and alkaline soils; although there were two small mining towns to the east of the valley, one at Berlin and one at Grantsville. The Ichthyosaur State Park is near Berlin, and I issued a permit to the State Park System, January 24, 1955, for a state—you might say—monument. One of the reasons I was glad to issue it to the state was that I didn't want to see a national monument created. Agency jealousy again [laughs]. We helped them move in a building, and our forces developed water up the channel. Then with grants and outside interests, it has developed into a good park with a concrete replica of an ichthyosaur.

On June 13, 1962, central Nevada had distinguished visitors, Sir Edmund Hillary and family. I met them there and escorted them to the campground at Kingston Canyon where they enjoyed spending two days. After he had climbed Mt. Everest (a good detailed account of which occurs in the *National Geographic* of July, 1954), the Secretary of Agriculture and the chief of the Forest Service arranged for him to make an analysis of recreation areas on national forest lands. They were a delightful family, and I had the pleasure of taking them up to the divide between Kingston Creek and Big Creek. And to my surprise, both [Hillary] (we called him Ed; he prefers that) and his wife were good botanists.

One of the first plants Ed asked me about was the prickly poppy. He asked a ranger over near Ely what it was, and the ranger said it was a bull thistle. And Hillary was enough of a botanist to know that that wasn't true. I told him that it was sometimes called *matilija* poppy. But the prickly poppy was *Argemone hispida*. This incident illustrates a point to me that it's no disgrace to not know something

that a person may ask. I tried to impress this on my students in Interpretation of Natural History at the University. The worst thing a person can do is to tell them positively something that's wrong. Now in this case, it indicates that the ranger didn't know what prickly poppy was, but he also didn't know what a bull thistle was. One of the best answers, if you don't know, say so and tell 'em that you'll look it up and find out and let 'em know.

Following the two-night camping at Kingston, which they really enjoyed in the rather isolated area, accompanied them to Lake Tahoe, and we stopped at Nevada Beach long enough for a short swim. And then with reluctance, they went with me over to Fallen Leaf Lake west of Lake Tahoe, where the media (radio, TV, and newspapers) met with them, and then the Hillarys were more out into the civilized country. They asked me, if I ever came to New Zealand, or if I ever went to New Zealand, to be sure to call them. They'd see if they could return the hospitality. I think Ed was sincere. In October of '74, when I was in Auckland, I tried to reach him by phone, but no one answered. Ed is a sort of a hero, very popular. And the New Zealand people, they're proud of him. You can see how he would be a successful mountain climber; he was a big man with a sort of a raw, long frame, but powerful legs and arms. Sort of reminds me of a professional football tackle.

For a long time I'd been concerned about the invasion of cheat grass in the Toiyabe range, especially the portion just south of Austin. We had several fires on tributaries towards Kingston Creek, and then on August 15, 1964, had a big fire in Big Creek—burned between three and four thousand acres. On the sixteenth of August, an experimental plane came from Missoula, Montana to test the use of infrared in the detection of fires or

even to help map the perimeter of existing fires. This system—the infrared detector was very sensitive to heat, and then a photograph was taken of the scanner. I was quite interested in this because of my previous experience in photo interpretation. On this particular fire, it showed some hot spots along the fire line, and we couldn't believe that this was correct. The fire had burned on this particular area, twenty-four hours previously. There was no sign of flame or smoke, but we took the picture's word for it and went up on this part of the line and found underground mountain mahogany coals that the detector found that we couldn't see on the surface.

Immediately following this fire in the middle of August, we started again reseeding the burned area with orchard grass and annual cereal rye—again to hold the soil and my intent to keep off the cheat grass.

On the twenty-sixth of August, our Twin Beach plane was reported to me as missing. And I ordered a helicopter from Stead Air Base to go on a search. But about the time they reached Fallon, received a report that our plane had crashed and burned with the pilot and one crew member. This is the first fatality that ever occurred in any work under my supervision. I'd been on other fires where people, five in fact, had burned to death, but they were not directly under my management. After lengthy investigations, both by the Forest Service and the FAA, it was never determined the cause of the crash. It occurred in fairly gentle topography, only a short distance from the Austin airstrip. It'll probably be a mystery that'll never be solved.

That date, the twenty-sixth of August is one that I'll always remember. While I was at home trying to reach the next of kin, I received a report that my family was in the hospital because of an automobile accident.

In 1950, the Secretary of Agriculture issued a closure order for the entire central Nevada Toiyabe National Forest lands—that is, closed to all horses. There had been some previous horse permits. There were numerous horses in trespass. This closure had to be sanctioned by the county commissioners of Eureka, Lander, and Nye Counties. They made it possible for our rangers then, to go out and shoot horses; so-called wild horses. The government provided the ammunition and there were about four hundred destroyed. Several weren't too wild, they had shoes on [chuckles]. (But I think I just as well give my philosophy here about wild horses. I don't think they're a diminishing species, because they're not a species, and they're certainly not diminishing. I feel that they should be in control and excess be disposed of in a humane manner, without cruelty.) There is certainly a contrast with the attitude towards wild horses in 1975 compared with that that I mentioned in 1950. Since that time, of course, there's both federal and state laws protecting the sacred beasts [laughs]. There are wild hogs and wild cattle on some of the western ranges. Why aren't they protected, too? It's really a matter of emotion and sentiment.

We frequently hear about pinyon and juniper invading livestock range, and to some extent I think that is occurring on range that is badly overgrazed. But I can't agree then, with the eradication of the invading pinyon and juniper, unless the grazing use is reduced so that the range can recover. However, some of those pinyon do make nice Christmas trees, because they're young and good form where they've moved out into the open range. Some of the increase in pinyon and juniper is not an encroachment for invasion; I've never seen this in the literature, but in my opinion, it's these two species have come back where they previously existed. It was said that all

of the pinyon and juniper within a radius of fifty miles of Eureka had been harvested for charcoal to be used in the smelters in Eureka. So now if there's young pinyon and juniper in the area, it isn't invading, it's just coming back home. The same is true in the vicinity of Round Mountain and Manhattan. I don't believe they had smelters there, but they did have to harvest pinyon and juniper for fuel. One year there was about a million and a half board feet of pinyon cut into lumber to supply the town of Austin. So I'd rather not think that pinyon and juniper is an invader.

In central Nevada, with the sparse population, much of the land not suitable for homesteading, and there were different federal means to acquire lands. In addition to the Homestead Act of 1862, there was the "swamp and overflow" provision. Apparently, you could haul a rowboat in a wagon across an alkali flat, so it qualified as swamp and overflow land. There later were grazing homesteads that allowed six hundred forty acres of range land to be patented. Later, Desert Entry, which applied to the valley especially in Eureka County, Diamond Valley, and to some mining claims that have been patented. So there was various means for people to obtain title to federal lands. Of course, except for mining claims, all of the national forest land is now withdrawn from other form of land entry.

Central Nevada people are a group of my favorite people. They may not always agree with me, but they didn't make a big issue of it even then. I liked their individual, rugged philosophy. I consider all of them that I knew, and I think I knew most of them, as friends. Some of 'em were a little, might say, eccentric, but one advantage out there where there were so few tourists or others, you had an opportunity to get to know them. In the Sierra, where thousands of visitors come in

for recreation, the local people seem to be a little bit obscure.

I was a little disappointed in Dave Stevens, another old bachelor, who lived at Cloverdale just south of the Shoshone range. He made a pet of a big flock of chukar partridge and kept us from hunting. Another incident that might be worth mentioning, there was in Nye County, a person murdered out in that locality; and the sheriff and the coroner went out to recover the body, but in connection, before they went back to Tonopah, they had a good chukar hunt. A combination of business and pleasure. (That reminds me once of Mr. Harrah at Middle Fork—asked me if I had brought my fishing pole, and I said, “No, I can’t mix business with pleasure.” And he says, “That’s right, then you don’t do justice to either one.” I thought that was a pretty good answer.)

There is one thing that I enjoy, too, in central Nevada. I always look forward to getting up early in the morning just about sunrise, ’cause at that time, to me, the desert is most beautiful. It’s usually clean and quiet, before the winds come up.

*The national forest boundaries are so cut-up out there in central Nevada. It is so much less compact than Sierra, I just wondered if you had any particular problems in defining your areas of responsibility.*

Let me explain that. Much of the land in central Nevada has never been surveyed—even in the valley lands of Eureka, Lander, and Nye County. And at least half of the national forest land has never been surveyed. And we had projects—in fact, I worked on them with the rangers—of trying to locate or relocate national forest boundaries, running, you might say, at random out through the country. And sometimes we’d be at least six miles from

a known land office corner. To some extent those lines are somewhat imaginary. It goes through the same type of country that exists adjacent to it, or adjoining, that’s Bureau of Land Management land. I’ve always felt the rangers, regardless of whether it’s BLM or national forest land, if it makes a logical unit or allotment, it should be used as such, without the worry of whether it’s under the jurisdiction of the Department of Interior or the Department of Agriculture.

*Do you have any trouble getting rangers to live out in those areas and establish their districts?*

That’s a good question. Some rangers in Idaho would be very reluctant to come to Nevada with the sparsity of timber. Personnel in Utah, especially that belonged to the LDS church, were not too enthused about coming. Some of the people that we transferred to both Tonopah and Austin, came to get a promotion or used it as a stepping stone, and after they had been on the job a year or two, they were anxious to go someplace else. That feature is one of the things that motivated me to encourage the University of Nevada to provide forestry courses so that we could, you might say, grow our own.

In 1964, the Inyo National Forest and Yosemite National Park, and the Toiyabe cooperated in the preparation of a habitat management plan for the Mono Lake deer herd summer range. There’s some history on this, so I’ll provide this copy for the Archives. One of the things that motivated this study was the fact that southern Californians were pressuring the two forests and the two state Fish and Game Departments to introduce elk into the Mono Basin area. My philosophy was, let’s get the deer herds under management first, and after that’s done, then we might think about bringing in exotics.



There's over five million acres of national forest land in Nevada. I've mentioned the two and a half million acres of the Toiyabe, and there's almost equivalent amount then, in the Humboldt National Forest with headquarters at Elko.

With good feeling, there was always a little bit of rivalry, because we were after funds for our pet projects. And I mentioned before, I think I took some forest highway money away from the Humboldt, because I followed it and was more aggressive. We did prepare a multiple-use management plan for all the national forests in Nevada. So, we worked very closely with the Humboldt in the preparation of this. There was one slight modification in the Nevada plan compared with the ones I previously mentioned on the Sierra. In Nevada, there is a zone called "basin front," or ecologists would probably classify it as the Upper Sonoran zone that is different than that which occurs at the toe of the Sierra, either on the west or east slopes. And I believe I did as much to curtail the Great Basin National Park as the supervisor of the Humboldt did. There were changes in personnel on the Humboldt while I was supervisor of the Toiyabe, before the consolidation. There was Torgeson, and Dramolski at Ely, who later moved to Elko; and then Slim Hansen was supervisor of the consolidated Humboldt at the time I retired.

The Humboldt has some beautiful country, too. In fact, the only established wilderness in the state of Nevada is the area that embraces the Jarbidge mountains. I like Jarbidge town and canyon. It's a little bit similar to the more isolated portions of central Nevada. Sometimes the supervisor of the Humboldt and I would take turns in representing the Forest Service at conferences in the state. Sometimes both of us would attend and be on the program.

I'd like to talk a little bit about the Toiyabe National Forest Advisory Board. There were three boards, two grazing and one somewhat recreation, as follows: The Mono board consisted of representatives from four ranger districts, each with a sheepman, and a cattleman. Fred Dressler was always very active, as were Fulstones and the Settelmeyers. For central Nevada, the two ranger districts had what is called the Toiyabe Grazing Advisory Board. There weren't enough sheepmen to have full representation on the board. But the board was rather unique in that at one time Alma Woods was the president, and Irene Hayden, the secretary, and it's the only grazing advisory board that I ever heard of that was somewhat dominated by women; and they were the workers and kept the organization alive. After Alma sold out, and Irene began to change interests in her ranch, as far as I know the board sort of became inoperative, and instead of having an annual business meeting, it turned into more of a picnic in Kingston Canyon. I failed to mention the Charleston Mountain Recreation Advisory Board. There were no livestock cattle or sheep under permit on Charleston Mountain. As far as I know, it's the only ranger district in the Intermountain Region that did not have permitted livestock. There are several reasons. One was the lack of water for livestock and then the intensive recreation use. Practically all the private land within this district was used for recreation rather than livestock.

Prior to 1951, there were a few small, modest range reseeding projects on the forest. One at Charnic Basin in the Monitor range. And another area of several hundred acres in Indian Valley at the head of Reese River. The technique and management for range revegetation had not fully been developed yet, and these two areas didn't last long because



they weren't protected by fencing, and the livestock on the entire allotment drifted to where the new grass had been planted. Later, there were some big projects, and under control by fencing, especially in Reese River or at the edge of Reese River Valley. Another large project in Simpson Park. Perhaps the most noted range revegetation project was at Sweetwater in Lyon County on the West Walker district, where through several years, over five thousand acres of sagebrush, land had been converted to crested wheat. Dr. [Joseph] Robertson in the College of Agriculture had some research projects going on this range which included determining the number of pounds of crested wheat produced per acre. Unfortunately, watering was a limitation, but the stockmen were glad to haul water for the cattle in order to make use of the reseeded lands.

The Toiyabe Forest is widely scattered over much of the mountain lands of western Nevada, central Nevada, and even now down to include the Charleston mountains in Clark County. There are fifteen different counties, yet only, at the time I retired, eight ranger districts. Six are in California; Plumas, Lassen, Sierra, Nevada, Alpine, and Mono County. In Nevada there was Washoe, Ormsby (which is now Carson City), Douglas, Mineral, Lyon, Eureka, Lander, Nye, and Clark counties. So, there's almost an average of two counties per district ranger. I've heard comments from my friends being bewildered as to where the Toiyabe National Forest was located, because they said it seemed every place we went, we'd see a Toiyabe National Forest sign erected as a portal along the highways. The central Nevada units on the Monitor, Toiyabe, Shoshone, and Paradise ranges, consisting of about two million acres, had only two rangers. The ranger at Tonopah had a district in excess of a million acres, which is really too large. I

was always concerned about him going out, especially with [Shag] Tanyton, a bachelor, because he might be out sixty or eighty miles from town and have trouble, and nobody'd know where he was or even where to look. So, I tried to get them to check and leave some record of their destination, 'cause it's a long ways between water holes.

Later on I was successful in dividing the two districts into three, and we had a ranger with winter headquarters at Fallon. His district was mostly that which was west of the Reese River. The chief's office approved the arrangement with reluctance. But I always felt, if it's national forest land, it should be managed to the same standard as other national forest lands even though they may be heavily timbered, and more critical watersheds, or more recreation.

Now the trend has gone in the opposite direction, similar to that that I mentioned when I was a ranger on the Modoc after the war: again, having large districts with a staff. Within the past year, the central Nevada forests now are back to two districts with the abolishment of the Fallon district. The pendulum swings from one way to the other.

#### **ORGANIZATION OF UNR RENEWABLE RESOURCES PROGRAM**

Soon after the Donner Ridge fire—in which I had mentioned the excellent work that [Sessions S.] Buck Wheeler had done in helping us organize fire crews—Buck proposed to me, with the concurrence of the [Fleischmann] Foundation, that an arrangement be made for a forestry-working-scholarship program, intended for high school graduates to earn their college funds by working for the Forest Service during the summer. This appealed to me, so I prepared a cooperative agreement

whereby the Fleischmann Foundation would deposit \$5,000 with the Forest Service from which to pay the selected students, each for three months work in the summer. I took the agreement to meet with the trustees, and Lester Summerfield really told me off. He said with all the millions that they had granted, this is the first time anyone wanted them to tie strings to their grant. And they wouldn't enter into the agreement, and we couldn't accept money without an agreement, so I worked an angle whereby the Foundation made the grant to the state Department of Education, and then the state department entered into a cooperative agreement with the Forest Service. And they deposited the money with our regional fiscal agent. The state department [of Education] also then sent out the announcement for the scholarship and screened the candidates to be sure that they would be eligible upon graduation that spring to go to college and study forestry. This program continued on for the next four years until I retired. I understand now that it has been shifted somewhat to the College of Agriculture in making the scholarship grants.

The Foundation wanted me to interview the prospective students, which I was glad to do, and each spring it meant going to various parts of the state to see the student, the principal, or counselor of the school, and even talk to the parents, the latter of which was Buck Wheeler's suggestion. I enjoyed this as a spring project. It took me to every county in the state except Eureka, Lander, Storey, and Esmeralda counties. The students were camped at Markleeville and I think received good summer training, as well as doing good work for the Forest Service. Fire suppression, of course, was the primary work, but we also had them do timber stand improvement, recreation area maintenance, and other

little tasks to try to give them a rounded-out experience. In the fall then, we had them write an evaluation of the summer experience. And I also had them each write a letter of appreciation to the Fleischmann Foundation, which I understand was rather unusual considering the numerous scholarships that the Foundation financed.

During Governor Russell's terms as governor of the state, he had a Natural Resource Advisory Council organized. This council consisted of federal and state agencies that were concerned with natural resources. Governor Sawyer continued on with this council, and in about 1961, Frank Groves, director of the Nevada Fish and Game Commission (at that time; now it's a "department"), and I proposed that the University of Nevada, Reno be urged to provide a curriculum for natural resource management.

At that time, there was some wildlife management taught in the biology department of Arts and Science. And Dr. Robertson had some excellent range management courses, but we wanted to broaden the base and go into more practical instruction in the field. Dr. Robertson's classes did some of this, but it wasn't especially popular. There were very few students who took the course. The courses in the Biology Department were, as the name implies, with very little in the direction of actual management of wildlife on the open range, or management of fish hatcheries, for that matter. We emphasized then (and continued to), we weren't advocating the school of forestry. There were numerous forest schools throughout the country, and we didn't feel that it would be applicable to Nevada. Well, the Resource Council advised us then to be a committee of two and prepare a letter for the governor's signature for him to send to the president of the University with our

proposal. So, Frank and I sat under a tree out in Little Valley one afternoon and composed a rough draft. Frank was out of state for awhile, so I took the letter to Governor Sawyer, and on their stationery rewrote it and sent it to President Armstrong. At that time, Dean (Maxwell) Adams was sort of sympathetic but not enthusiastic. But after Dean [Dale W] Bohmont came to the University things began to happen.

In 1963, the summer, Dean Bohmont asked me if I would teach the first class. We'd reached a point now where I'd better either put up or shut up. So I agreed, providing the regional forester would approve it, and suggested that forest fire control, which is a course that's applicable to range and wildlife and forestry, be included in the fall curriculum. On September eighth of that year, just after Frank and I had been to Little Valley, I met again and spent the night in Little Valley, with Governor Sawyer and discussed our progress.

So, the first class in Renewable Resources started September 12, 1963, that is the fall semester. I had seven students and was impressed with the contrast in my previous experience teaching high school. With these college students, it was a pleasure. They were eager, interested, and were taking the course because they wanted to.

About that time, the Board of Regents approved my appointment as adjunct professor. I tried to conduct the classes informally on a first name basis, but the students either called me Mr., Professor, or Doctor, the latter two somewhat startling. And I certainly wasn't a doctor, and before I signed the contract I explained to Dean Bohmont, my only educational qualifications was that of a Bachelor of Science. But he replied that they wanted a person with experience, rather than higher degrees. I also explained that I wasn't

participating for the money that was in it, but he wanted to have it on a businesslike basis. So I took, with the consent of the regional forester for one semester a year, I took annual leave from eight to nine each morning I had a class, so that there wouldn't be a conflict with my federal Commitment.

It was a three-day-a-week lecture, and then a three-hour lab, most of which was in the field. We went to lookouts and guard stations, saw the planning for fires and the detection, and the initial attack. We went to old burned areas (and there certainly was a wide variety of those in the vicinity of Reno) to see what tactics were still apparent in the suppression of the fire and, too, the effects of the fire on the timber and range and watershed land.

We used as a text *Forest Fire Control and Use* by Davis (that is, Kenneth P. Davis). A copy of the text is hereby presented with his autograph and many pages with my lecture notes. I had to study as intensely as the students for the chapters on combustion. I had to review chemistry and physics that I hadn't thought of for many years. The first paycheck the University gave me, I presented to the Library to buy forestry books. And at that time, the Fleischmann Foundation was matching two for one other contributions, so it started a modest forestry library.

Of course, I couldn't teach a course without bringing in photo interpretation, so on days of bad weather when we stayed in the classroom for our lab, I had the students computing areas that had been burned and were shown on aerial photographs to give them a little foundation in determining scale and reading other features, both natural and cultural, from the aerial photographs. Coincidentally, at the same time, I was teaching a photo interpretation course in the Naval Reserve in the aviation unit. A little later, they

appointed me commander of the unit, which is supposed to be in command of a pilot, but there was no one available so I took command until a pilot became available. Our greatest limitation was that we had no airplanes for our reserve enrollees to fly. And soon after that, the unit was abolished, and a Naval Reserve school for general classifications was set up in which Dr. [William R.] Wood, then vice president of the University, and Dr. Sutton, the head of the mechanical engineering department, gave us excellent lectures.

The next course to be presented in the fledgling Renewable Resource curricula was given the spring semester in 1964. And Dr. Norbert DeByle gave a general forestry course. Dr. DeByle was assigned to the research on the Truckee River watershed, a result of some of my previous efforts. After he was transferred, they were looking for another practical forester, so I recommend to Dean Bohmont that Hank Norton (that's H. E. Norton) be considered. He'd had a parallel and as much as experience as I had. He'd gone to Yale and the University of California and had a degree in forestry. So they made him the offer, and then Hank came to me to discuss it, and I encouraged him, and he stayed then with it until he reached retirement age.



---

## RETIREMENT; WORK; TRAVEL

In my previous years with the Forest Service, I sort of took pride in being able to do anything that I asked my people to perform, such as maintaining telephone lines—the old crank phone sets and the single wire. I was a rough carpenter. Also, things like being a plumber; do minor repairs on automobiles; even a fair typist, and could shoe a horse! But the age of specialization was upon us. I'd never been a smoke jumper, I couldn't fly an airplane, I couldn't operate a bulldozer, nor could I fix a sophisticated two-way radio. Also, I'd passed the age limit to be on forest fires. It was the policy that people over fifty-five were not supposed to be on the fire line. So with the events of the year, I notified the regional forester, Floyd Iverson, of my intention to retire. It would be effective in February, 1965.

There were other things that I wanted to do. Be able to participate more at the University of Nevada. I wanted to do some travel. My philosophy as supervisor was not to take annual leave in the summer, so it was confining. I didn't want our people to

take annual leave during the fire season, so I felt that I should set an example. I wanted to see more of the state of Nevada where my previous duties did not take me.

When I retired on February 26, 1965, I received many complimentary letters wishing me well, from senators, congressmen, governor, and others. But I believe the two incidents that I cherish most was one from Alpine County where the county supervisors came to the office to try to talk me out of retiring. And Mono County supervisors passed a resolution expressing appreciation for years of work together and wishing me a good retirement.

### **REVIEW OF WORK WITH MONO AND ALPINE, CALIFORNIA COUNTIES**

I might mention my assumptions of why Alpine and Mono counties' supervisors recognized and wished to honor me in my retirement. In the first place, I had an opportunity to work with county officials as a forest supervisor longer than any supervisor



previously and certainly any following my retirement. In fourteen years, there's sufficient time to either make good friends or enemies. And I always had a respect for the county supervisors and commissioners of sparsely-populated counties, because they were really the only elected body representing the people. I feel that the Forest Service personnel policy is somewhat weak in that they transfer people too frequently. The average is about five-year tenure for the supervisor, and not much longer than that for district rangers. As an illustration, since I retired in '65, there's been three forest supervisors on the Toiyabe. With a forest as large and widely dispersed populations, to me, it's impossible to really get acquainted with the country and the people in even a five-year period.

These small counties too, needed our cooperation and help. Some of them did not have an engineering staff, and there were always roads to build. They had no professional planners. So I felt we could help them and contribute some of our expertise. And some counties were not, by state law, authorized to cooperate with the Forest Service. For example, in Mineral County, county commissioners offered to enter into an agreement with the Forest Service in regard to a new road into the Alum Creek campground. We were to do the engineering surveys, and construct the road, and they would maintain it, and even before that, acquire the rights-of-way. Our general counsel discovered that the county had no authority to cooperate. So, I was able to help in the passage of a law in the Nevada Legislature allowing Forest Service-county cooperation.

In Alpine County, the supervisors had been in office many years. There were few candidates. They were reelected time after time. And most of them were quite ardent preservationists. They were reluctant to

see timber harvested from the forest lands, especially that privately owned. They'd seen some poor logging. So whenever we had a timber sale, I insisted that the quality of logging be a very high standard, so that it would minimize the impact on aesthetics and watershed—that is, erosion that could affect their mountain streams. We were sort of in the environmental impact analysis long before the Environmental Policy Act was passed by the federal government and a subsequent California Environmental Protection Policy established by the California Legislature. I always tried to, whenever possible, attend official meetings, when invited, in the smaller counties; that is, smaller populations. I also have had a policy of attending personally if it was a night meeting or a weekend meeting. If I wasn't committed elsewhere in time off, I was reluctant to ask my staff members to contribute their time outside of working hours.

And I tried to bring them into decision-making. Nowadays we call it "input by the public;" that has gained more attention in just recent years. As an example, the ranger's dwelling at Austin was an old, poorly constructed house initially, and one room was used as an office. It just wasn't a residence to accommodate a family. We wanted to build a new dwelling, but I was a little bit reluctant because it would be the best building in Austin and was a little apprehensive that we might be criticized for building a "mansion" at taxpayers' expense. So, I discussed it with the local city fathers and the resident county commissioners, and they were elated that we were gonna build a new residence that they then hoped would set the standard—there hadn't been a new dwelling built in Austin for half a century, and they felt that this was the beginning of a new era. They were always worried about the county seat being moved

from Austin to Battle Mountain, and they thought that this might be an inducement to keep the county seat in Austin. Oh, by the way, that new dwelling was constructed and completed in 1961.

In 1962, we were ready to build a new dwelling and office near Bridgeport in Mono County. The old station was about two miles west of the little town on Highway 395. So I discussed with the county supervisors and others at Bridgeport the possibility of building within the town, which of course, was unincorporated. They cooperated to the extent they could, in trying to find a suitable location. The only area that was vacant that might be available was very low, poorly drained, off-the-highway, near their sewer plant. So finally they agreed, perhaps, with my decision already made, that the present site out of town was preferable. So in 1962, we built a new residence and office for the Bridgeport ranger.

I always tried to give county commissioners and county supervisors assurance in case of emergencies. I previously mentioned in case of two fires near communities where I tried to relieve their anxiety. Maybe I was overly optimistic, but it proved that although they might have been endangered, the fires never reached their little towns.

Then I'd become interested in history, especially of the Toiyabe, about five years before I retired. And found that the local old timers always are anxious to tell their stories, some of which needs evaluation. But I have found one way to break the ice or to start an acquaintance (some of which ended in friendship) is to ask the local people a question about their area or the history, knowing that they'd be able to answer it. Even as simple a question as, "Why did Willow Creek be called Willow Creek?" Or other streams named for individuals that they were

acquainted with, gave them the pleasure to tell you what they knew.

I helped Alpine County's historical society in their attempts to get a little museum. I even had hopes that the Fleischmann Foundation might make a grant, but they were able to do it by other means. And on July 5 and 6, 1963, I spent two very enjoyable days with Dr. Vince Gianella and at times, some of the local people, going over the Fremont trail from California line over Carson Pass. We retraced his route of 1844. Vince convinced me that William Maule's map that is in his atlas was erroneous as to where the Fremont party went from Double Springs Flat down to Carson Valley, and then back up to Markleeville. And then I was able to convince Doc where the party went up Shea Creek, past Grovers Hot Springs, and then on over the summit.

Then in regard to Mono and Alpine Counties again; two sparsely populated counties had very meager road funds. The State Highway Department took care of Highway 88 and 89, both improvement and maintenance. Also, 89 was extended from the Ebbetts Pass Highway over Monitor Pass to Antelope Valley, terminating with 395, U. S. 395. This was about the only highway construction project the two counties had received in the fourteen years I was supervisor.

The Monitor Pass Highway might be worth mentioning as a point of history. There was some rather antique law in California that required roads be built between county seats. And this link then, theoretically connected Markleeville with 395 onto Bridgeport, the county seat of Mono County. I was glad that this antique requirement was carried out because it served as a valuable highway across part of the Toiyabe and, previously, almost inaccessible terrain. It is an excellent route for recreation travelers and was valuable also, in access to fire.

So with the counties' meager funds, I tried to help them in the construction of roads that ordinarily would be considered as county roads, but they were a joint federal and county part of the system. The two counties received very little in forest receipts (because the Toiyabe didn't sell much timber), so was able to obtain regular forest development road funds—the largest project being \$224,000 to build the Wolf Creek road southeast of Markleeville. The old road was very treacherous, narrow, part of it was flooded whenever Silver Creek came up, and it went over a cliff, a very steep grade just wide enough for two wheels, and dropped off about a hundred feet into the river.

In Mono County, since they didn't have a county engineer, we did the survey and engineering work for a highway from Conway Summit (395) up to Virginia Lake, which was constructed later by the county, making it an excellent road for recreation visitors, both going to Virginia Lake and then on by trail to the Hoover Wilderness.

While speaking of limited funds, of course, Mono and Alpine County lacked population and private land as a tax base and [had] limited timber. So, it was almost impossible to obtain forest highway funds allocated to the California region, and we were another region. The two counties would ask that I attend and support them when the governor or the congressmen made their annual visits to the counties. It gave me a good opportunity to meet Governor [Edmond G.] "Pat" Brown, and Congressman [Harold T.] "Bizz" Johnson, who has been good for the Forest Service in Washington.

Not only was I interested in spending more time at the University, but it also allowed me to be more active with the Lake Tahoe Area Council. And during my spare time, I thought I would be a natural resource

consultant. My first client was a prosperous rancher in Alpine County, who wanted to build a new home in a grove of big Jeffrey pine trees. And he was worried about insects or disease epidemics, so he had me out to make an analysis. I just as well say it now— my definition of a consultant is one who borrows your watch to tell you what time it is. I felt that when I met with him, I was reluctant to take pay. I'd done similar things as a courtesy of the federal government for over thirty years. But he urged me to accept something for my time and mileage. Incidentally, the trees were not in danger. There were a few dead branches on the lower portions, partly from the result of a former rancher doing a little light burning.

I next made a contract with the state of Nevada Department of Conservation and Natural Resources toward the preparation of a recreation master plan for the state. This plan was necessary for the state to be eligible to receive federal land and water conservation fund money. My first contract consisted of mapping the vegetation of the state as it might pertain to recreation. I was allowed until the first of July to complete the job, but they said they had to have it earlier. So although I did check my mapping in every county, there are several voids even that might be shown on a small-scale map. There is a little transition zone on the Pine Mountain range in northern Humboldt County that isn't shown. But as far as I know, this type of mapping is the only kind ever made for the state. I used the Merriam's "life zone" classification, that I mentioned previously. And then in addition, I tried to show the major areas of one square mile or more for pinyon-juniper, yucca, and then on an even smaller scale, occurrence of bristlecone pine. I present the map that I made—there's only one other one in existence, as far as I know, that was delivered to the state

as a part of the contract. I might say too, while I'm presenting maps, that I'd like to leave the two field maps of the Toiyabe that I used most of the time on the forest.\*

When I retired, Ed Maw, who I previously mentioned, took my place as supervisor. I was pleased with the selection. I didn't try to name any individual, but I did try to influence the regional forester that the next supervisor should be a younger man, but who had previous experience as a forest supervisor. So, Ed came back to the Toiyabe in that category.

While I'm presenting things, I'd also like to provide a copy of the 1964 Annual Fire Plan for the Toiyabe National Forest, because it has a list of many of the good personnel that I worked with. There were only five people on the forest when I arrived in 1951 that were there when I retired. Those were Mrs. Harriet Metcalfe—trying to think of her title—in the clerical staff; Art Provience, a road foreman; [Waldo] Van Arsdale, our fire dispatcher; Archie Wood, the mainstay of the work force of the Alpine district at Markleeville; and Lyle Smith, our recreation lands staff man. Lyle is the only one that didn't retire within a year or two of the time that I did. I think I should mention a little more about him. He was the son of forest supervisor Ed Smith on the Eldorado, that I have previously mentioned. I've known Lyle from the time he was fourteen years old. He was an assistant at Bridgeport when I arrived, and succeeded in getting him promoted to district ranger at Alpine, and then fire staff man on the Toiyabe, and then recreation staff man. He's continued up the ladder now in recreation lands in the regional office at Ogden.

After preparing the map of the vegetation of the state—and I might mention too, how the Merriam life zones are applicable to recreation planning. For example, the "transition zone" is by far the most suitable place for camp and

picnic areas. Below that, in the lower and upper Sonoran life zone, it's too hot and there's a lack of shade. Above the transition zone, it's usually steep, inaccessible, and has a very short season because of the lingering snowpack in the spring and early snows in the fall.

#### **NEW JOB:**

#### **NATURAL RESOURCE CONSULTANT**

The next contract with the state, then, was to be the natural resource consultant in the preparation of Part 21, titled, *Recreation in Nevada*, where I took other consultant's work in resources such as wildlife, water, economics, minerals, history, and prepared the resource section for the book, including some small scale overlays, even of vegetative types for the state. I present a copy of that. And the third contract was the preparation of Part II, which was more a statistical nature in regard to recreation and the resources. That also is provided.

Well, I'd like to back up to this Part I and II of the Nevada Recreation Plan, in which I tried to emphasize that Nevada is gifted with great scenery. People that travel across the state on either Highway 50 or new Interstate 80, really never have an opportunity to see Nevada as it really is. Those routes go through the monotonous, uninteresting desert portion, and logically that's where it's easiest to build highways. But twenty miles on either side of any trans-state route, there are spectacular mountains with beautiful lakes and attractive streams.

In about 1966, the students in the offices pertaining to the natural resource curricular, outgrew the new College of Agriculture building. With efforts of Dean Bohmont and

---

\*See Sack papers, UNR Library

Dr. Skau, funds were made available through the Regents for a center that was constructed over on Valley Road.

About that same time, the curriculum expanded so that options for a four-year professional college curriculum was offered in forestry, recreation area management, game management, watershed management, and range science. We were really beginning to grow. And as a form of an announcement for prospective students, we obtained permission from Harrah's to use the artist's illustration on a oblique photograph, showing Reno in relationship to the valley, Lake Tahoe, and the surrounding Carson range, and even the Sierra, main Sierra in the distance, with our message that this was an outdoor field laboratory for students in Renewable Resources. This is out of print, and I provide one copy for the Archives. I tried to get another run of it and offered to pay part of the cost, but I don't believe it was ever done. We had to get consent of Harrah to use the negative, and we got the screen from the Chamber of Commerce. The Power Company used a similar photo illustration, annotated, to show the various winter sports areas in the vicinity of Reno and Lake Tahoe.

When a person retires, as I mentioned previously when you start a new job, when you retire they find more new jobs for you, too. Immediately after retirement, I was asked to be the commissioner for the Nevada Council of Boy Scouts. accepted this honor. And at the same time, Neil Plath was designated chairman for the preparation of a long-period master plan for the Boy Scouts of the Council and asked me to be the chairman of a committee to prepare a long range camp program for the Council. Sometimes the chairman does most of the work of the committee [chuckles], which was true in this case.

Since that time, the plan has been more realistic and accomplished more than I had hoped for. One camp that I proposed in central Nevada has come into being by the donation of some land on the Shoshone range north of lone. And another potential camp is at Fuller Lake, which has recently been donated to the Boy Scouts.

I was a little bit disillusioned as commissioner because I got the feeling that the Council was rather top heavy. The ones that I feel that need the most help are the Scoutmasters or the troops. My son had just about reached the stage as Eagle Scout, as had several other of his friends in the troop. Unfortunately, the Scoutmaster was transferred away, and this fine group of boys then lost all interest in scouting. And the overhead, I couldn't detect that they had done much to find another Scoutmaster. Their philosophy was to let them join another troop. But that isn't the way boys do after they've been together from Tenderfoot up to towards Eagle Scout.

In April of '66, Mr. Harrah and others purchased the Middle Fork homesteads on the Salmon River. And soon after that, I was selected as their consultant as far as the natural resources were concerned. I made my first trip to the Middle Fork, Labor Day of 1966. Mr. Harrah issued a policy that no tree would be cut on any of his lands or any lands that he leased without me first making an inspection, then a recommendation. I'll mention some more Idaho experiences later.

\* \* \* \* \*

December, 1966, I was awarded the honor of being the Conservationist [of the Year] of Nevada for the year. This was presented to me at a banquet, by Elmo de Ricco, representing the governor—a copy of which I present. This



was to be an annual award sponsored by the Nevada Wildlife Federation and Sears and Roebuck.

I mentioned the “Conservationist of the Year” award, but I failed to comment on the work that I had previously done with the organization. Prior to the Nevada Wildlife Federation, the organization was called the Nevada Federated Sportsmen. And for years, there were three of us that conducted the annual Wildlife Week poster contest. Alicia Beck, secretary of the Federation, and Camille Monday and I seemed each year to have most of the responsibility. Huge numbers, in the hundreds, would come to us from schools all over the state. I’m not an artist, but in the absence of, sometimes, of an artist, I had to help judge ‘em. But most of my effort was receiving ‘em, sorting them, some screening, and then helping announce the winners after the contest. Incidentally, some of those posters were excellent, showing that the school students in Nevada have artistic ability.

#### **WORK FOR UNR: TEACHING AND LAND ACQUISITION**

Regarding the previous mention of Renewable Natural Resource program that started in ’63—there was a combination of favorable events that occurred. There was a new Max C. Fleischmann College of Agriculture building. The University had a forest of 2,500 acres in Little Valley that Captain Whittell donated. We had a forestry scholarship, previously mentioned, in which five students could work to finance their schooling. And a new aggressive dean of the College of Agriculture that had vision and realized the potential. He could see better in the future than I could. I was of the impression that there would be about twenty Nevada

students enrolled each year and thought that there would be opportunities for about that many graduates to be employed by state and federal agencies in Nevada. It has been proven that my estimates were very modest. I believe today there are about two hundred and fifty students, and when they graduate, they are appointed not only in Nevada, but other places in the West. In 1964, Dean Bohmont obtained C. M. Skau, a Ph.D. in forestry, to head the center. so, we were off to a very substantial beginning.

I mentioned a map of the vegetation of the state that I presented. I’d also like to supplement that with a rough draft report titled “Flora of Nevada as a Component of the Environment for Wildland Recreation.” This consists of ninety-five pages that I wrote in about two months’ time. To my knowledge, there’s only one other copy in existence. This was never published. And too, in presenting the 1964 Toiyabe forest fire plan, I’d like to comment on comparing it with the first fire plan I ever saw in 1930. It consisted of one atlas page, principally a phone directory using the old “long” and “short” rings instead of numbers and where a few hand tools were cached at some outlying points\*.

About 1960, I joined the International Wood Collectors Society, as I was somewhat interested in wood technology even from my college days. I found that there were two other members in the state of Nevada, one living in Reno whose name was Claude Mowrey. He was a former cabinet maker, semi-retired, but really an enthusiastic collector of wood. He collected 3,200 specimens. A specimen by the direction of the society is six inches long, three inches wide, and half an inch thick. That’s sufficient to see the grain on all

---

\*See Sack papers, UNR Library



sides. With some prodding by me, I was able to get him to donate this collection to the University, and it is housed in the herbarium room of the Renewable Natural Resource Center.

I've mentioned Captain Whittell previously, but I feel should add some more. I had strong hopes that he would leave a very substantial grant to the University of Nevada. Charlie Russell had the same hope. And we sort of worked together on it. But there was an unfortunate incident that happened. The new state park director and the commission tried to or [sought] a donation from him for his lands, including Sand Harbor and nearby mountainous area. They wanted me to help them, but the Captain had told me that the grant to the University and the Sisters of the Catholic Church at Little Valley was the last thing he was going to do in his lifetime. Well, they tried anyway. In fact, Governor Sawyer went down to see him, and the Captain wouldn't let him in. He was a little mystified how I could go down and call anytime. This was Woodside at that time, Woodside, California. Well, the Park Commission was impatient, so within a year, they started proceedings to condemn the Captain's land. And that naturally caused him to be very bitter. Then I tried to explain and differentiate between the University and the Park Commission, and he answered, "They're both state agencies, and I'm sure that was when he reached a final conclusion that his estate would go to the Audubon Society, Defenders of Wildlife, and the Humane Society. I believe each one has received or will receive close to ten million dollars each.

There was another interesting, you might say character, named Freeman Fairfield, who was a multi-millionaire oil man, and

bought the Slinkard Valley ranch land in Mono County, and also sagebrush land east of the Wellington "Y" or north of Topaz Lake in Douglas County. His hobby then, was that of range improvement. He wasn't especially interested in stocking the land to its capacity. He just liked to build up range. He sunk two wells, which of course was in his oil well business, and must have hit a huge aquifer in Slinkard Valley; and then began pumping it with propane-powered engine even before the power company had time to get in a line. Then he took salvaged oil well pipe and run lines for sprinklers all over the range lands in the valley and then reseeded. He built the capacity for cattle up to about a thousand head, at least for the summer range. But he never grazed more than about, well, half that number. Several from the University of Nevada tried to advise him in range management, but they were somewhat reluctant—his ideas were just not practical and economic. They weren't giving thought to what an oil millionaire could do. I had hopes that he might leave an estate that would include the University of Nevada, but as far as I know, the University never followed up on it. He left one of his companies to his faithful employees, and I never heard what happened to the rest of the estate. He bought a World War II surplus B25 plane called the Mitchell and then refurbished it into a very elaborate executive plane with fine furnishings inside. And he'd come up and take me for a ride in his plane around over his country. And about that time, also bought Little Antelope Valley southwest of Coleville. After we would fly a big circle looking at his lands and national forest lands, too, then we'd land at Minden, and then I'd take him a car, and we'd see especially his developed lands in more detail on the ground.

I mentioned teaching forest fire control as the first course. I gave the students an outside reading assignment which included George Stewart's novel titled *Fire*. Even though it was semi-fiction, it was typical of his writings— quite true and accurate. So I asked my students for a term paper to point out ten new techniques, or methods, or kinds of equipment that had been developed subsequent to Dr. Stewart's published novel. For example, at that time there was no air drop of retardants, no smoke jumpers, no infrared scanners, not even any chain saws. There about ten new developments that were quite obvious. Also, Dr. Stewart was purposely vague as to the location of this fire. It was in what he called a hypothetical "Ponderosa National Forest." But based on the general terrain, and the fact that they could see the lights of Reno at night, and the base of supply was Nevada City, I asked my students to determine the location of the fire to the nearest degree of latitude and longitude. And most of them were quite close. However, one of them missed it considerably. He had the wrong longitude, and the fire occurred out in the Pacific Ocean [laughs].

The last time I saw George Stewart, I told him from my analysis where the fire occurred; and he was quite surprised that I knew and wondered how I found out. It was on one drainage of the Yuba River, sort of north of Camptonville, northeast.

When I mentioned the George Stewart's novel title *Fire*, I should have included another significant change, and that is the assignment of the fire boss. up until the time of his novel, it was a sacred tradition that the district ranger be the fire boss. And if the ranger was not able to handle the job, his relief was very formal, with some ceremony, and emotions, when the supervisor had to

assign someone else in the ranger's place. But later on, different size fires required a fire boss with higher qualifications, and it's reasonable that a district ranger shouldn't be expected to be qualified for a huge forest fire. Nowadays, with air travel, it's only a matter of several hours to bring a fully qualified fire boss say, from central Idaho to the Sierra. I know one case where the supervisor of the Tahoe Forest went to the Salmon River in Idaho as fire boss on the Corn Creek fire. Looking back though, the only time I ever relieved a district ranger of being fire boss on a fire was in order to send him to another fire that was worse [laughs].

Other courses as a first in the curriculum, that I taught, was "Wildland Recreation Management." Each spring for a field trip, the class would go with me to the Lehman Caves-Mt. Wheeler area where we could see two federal land management agencies: the National Park Service having the Lehman Caves National Monument and then the Humboldt National Forest with their administration of the surrounding national forest lands. We would take these trips on weekends. And to me, and I think to the students, it was a very enjoyable outing.

They, in general, without my influence, were opposed to the creation of a Great Basin National Park. Incidentally, there is one other point maybe I should make before I forget it. I never had a student in any course, and it came up I think, in every one, that was sympathetic towards condemnation of land for any purpose other than highway rights-of-way. Surprised that the students held so highly the individual property rights of a landowner.

I taught several semesters another course titled, "Scope and Problems of Outdoor Recreation." This was theoretically to follow the Wildland Recreation Management course.

I was rather amused in one examination; I asked a question to name a hazard or risk common to recreation activities, such as boating, swimming, or ice skating on thin ice, or cliff climbing, dangers of rolling rocks, or falling. But one of the students was a sky diver, and he used that as the activity, and the hazard would be, or risk would be the parachute not opening [laughs]. To me that was a very definite, fatal risk!

My observation of the students was that they, from their high school education, they were fairly good in mathematics, fair in English composition, but some of 'em were atrocious in spelling. As an illustration, one question in fire control I asked was, what was one of the first records that we know of, of fire? Well, the answer is in a little pamphlet I'll leave with you, *Forest and Flame in the Bible*. But one student had an awful time spelling Bible. He spelled it bibale and crossed that out, and bibel and crossed that out, and then he wrote bib and crossed that out, and finally wrote "the Good Book" [laughs].

I sort of designed another course that rather appealed to Dr. Skau and Dean Bohmont, but not too many students chose to take it as an elective, and that was "Interpretation of Natural History." That's the title of the textbook written by a Mr. Tilden, with the National Park Service. As a theme paper, I took the class each year out to the old townsite of Crystal Peak, north of Verdi or just west of the old Verdi cemetery, and had them then prepare material for a guided nature trail. I thought they did very well, and provide for the Archives two of the students' reports. To avoid partiality, one is by a "Mister" and the other is by a "Ma." I provided, too, some of these to the forest supervisor of the Toiyabe as, I think, a good suggestion for them to publish a handout using the information contained.

In the spring of '69, I taught my last course at the University. The subject was "Interpretation of Natural History." There were only five in the class, but they were excellent students; two of 'em graduate and the other three seniors. I was very fond of this class and all the previous students. The classes were small, and it was possible to get better acquainted with each one. But the classes in Renewable Natural Resource Center were becoming larger. One previous class I had seventeen students, and to me, that was too many. I just had a feeling that I wasn't gettin' through to all of 'em when the class was larger. Even that, by University standards would have been a small class. The last group of five were so good and so uniform that I gave each one an "A" as a final grade. I'm glad that none of my classes were so large that it would have been necessary to use a grading curve. I don't believe in that system. I've always been happy to see previous students after graduation. They always seemed rather formal and called me Mr. in class, but afterwards they always called me by my first name.

\* \* \* \* \*

In the spring of 1965, I mentioned my first consulting client. A little later, I renewed acquaintance with Bill Harrah. He and his real estate assistant, Lloyd Dyer, wanted me to take them over the Whittell property east of Lake Tahoe. They had leased some of his holdings, both at the so-called "castle" and Zephyr Cove, so they wanted to see the rest of the wild lands. I spent a very pleasant day with the two. And in the afternoon, for a man of few words, it was obvious how enthused Mr. Harrah was about central Idaho. He had a summer home at Stanley and was really fond of the Middle Fork of the Salmon River in the

Idaho Primitive Area. This led to something that I'll talk about later.

### COMMISSIONS AND BOARDS

About that same time, the Reno Park and Horticulture Commission had Tom Miller as a chairman, and Audrey Harris and John Benson as the other two members. John and his wife Dorothy have been my close friends from the time I came to Reno in '51. But John wanted to be relieved of his appointment on the Commission because he was afraid there might be a conflict of interest in his dealing as a nurseryman with the city. So Tom, and Audrey, and John asked me if I would be willing to accept an appointment to serve on the Commission in place of John. I was always, of course, interested in parks and was rather proud of the various city parks in Reno. The term "horticulture," I found, was a little nonapplicable. Actually, anything regarding horticulture should be under the guidance of the Washoe County Extension agent. But the committee of three were really dedicated to the maintenance of city parks.

John and Dorothy Benson have done most for the beautification of Reno and vicinity, not just in a commercial way with a nursery, but have donated time and material for the public landscape. This includes city, county and state lands. During the 1960s they helped organize the Nevada Horticulture Society for which I served as chairman and several years as a director, so am aware of the contributions the Bensons made without desire for publicity.

The Society took as a project, the start of a botanical garden at the same time landscaping the grounds around the Atmospherium-Planetarium on the University of Nevada Reno campus. Much

of what has been accomplished so far is due to the labor and planting stock provided by John and Dorothy.

Soon after I became a member, it appeared to me that there were two commissions that should be consolidated. There was a Recreation Commission and a Park Commission, both concerned with the same area; the recreation end of it concerned with the activities, and the Park Commission concerned with the land on which the activities occurred. The Recreation Commission were very favorable towards the consolidation, but Tom Miller strenuously objected to a merger, and Audrey Harris had some reservation. But I did a little behind the scenes work with a long time friend, Mayor Hugo Quilici, and knowing how the Recreation Commission felt, the council did by ordinance consolidate the two in 1966. And the mayor appointed me as the chairman of that commission. It's the only time that the chairman was ever appointed, instead of being elected by the commission. It was somewhat of a delicate situation, but we got along fairly good, even though there was a clash of personalities between several of the members. I, as chairman, set down some ground rules that we were gonna start the meetings promptly at seven-thirty, and we were going to finish at nine-thirty unless there was just something so urgent that needed longer deliberation. I wasn't gonna give 'em time to argue. Oh, I might say too, that an ordinance had to be changed in order for Audrey Harris and I to serve on the commission, because we did not reside within the city limits. So to include us, they relieved that requirement.

I mentioned the three members of the Reno Park and Horticulture Commission, and to do justice to my friends— many of 'em of a long time—I wish to name those who were on the Recreation Commission and then

continued on when the two commissions were consolidated: John Sala, Dr. Orson F. Miller, Tillie Botti, Dr. G. A. [Art] Broten, Walter Herz, Mrs. George Southworth, Ronald Van der Kelen, Earl Wooster, Duke Lindeman, and Mrs. Anne Bishop.

Another assignment I received that year—I mentioned previously that when a person retires there's all kinds of jobs for him to do—I was appointed on the Bureau of Land Management State Multiple Use Advisory Board. The old Taylor Act provided for advisory boards, but they comprised cattle- and sheepmen and an option of having a wildlife representative; that is, for both the district boards and the state board. But the Multiple Use Act of 1960, although it did not apply to BLM lands, did focus attention to multiple use of the lands. And my appointment was that of representing "forestry and fire." I've been on the board continuously ever since, until January fifth of 1975, when the boards for the state were abolished by Secretary of Interior direction. They will be reorganized in time, but the instructions are that they will have smaller membership and a more balanced representation. The board, up until January, was predominantly cattle and sheepmen, one of each from each district; and then in addition to my representation, there was a recreation member, Virus Fischer; a mineral representative, was Paul Gemmill; a community representative; an economic representative; and of course, there always had been a wildlife member. Also, Dean Bohmont's name should be added because he represented education and extension on the board for as long as the Board existed. I doubt that I'll be appointed to the new board, because forestry is of less significance in Nevada than many of the western states, and fire is really a function rather than a use or a resource.

Continuing on about advisory boards, Hugh Shamberger should be recognized, having served on the Chief of the Forest Service National Advisory Board from 1964 to 1966. I was very pleased that Hugh was on the board and was assigned responsibility to see if he would serve, and he consented. And then it was a pleasure to tell him he'd been appointed.

Some regions of the Forest Service have Regional Advisory Boards, but the Intermountain region was so large and widely dispersed from western Wyoming to Reno, and from central Idaho south almost to the Grand Canyon, it was hardly practical. Although, all the time that I was supervisor, the chief's office and the regional office tried to persuade me to organize a Forest Advisory Board. I felt that they wanted it more because it was a common practice, than because it was needed or would be practical. And the reason I refrained, was for the same reason that the region didn't have a board. In those days, the expenses were not paid to the Advisory Board members. It seemed to me like an unreasonable burden on the board members say from Las Vegas or Austin or Tonopah, to attend a meeting near the centers of population in western Nevada. Too, there just was no common ground for meeting. The Las Vegas people composing the District Board had absolutely no interest in the concerns of central Nevada, which was primarily grazing. And too, central Nevada people had very little in common with the area along the east slope of the Sierra. So we never organized a board, and as far as I know there hasn't been one formed since my retirement.

Referring back to the appointment of Hugh Shamberger on the National Board, there were two reasons that I thought he would be an excellent representative. One



was in regard to water rights. Although I might be classified as a government federal bureaucrat, I always felt that state's rights were paramount in some cases, such as regarding water and wildlife. As I interpret as a layman the Organic Act of 1897, it recognized that water belonged to the state rather than the federal government. That has been informally contested several times. When Robert Kennedy was attorney general, he disagreed with it, and even though it'd been practice for about sixty years, he didn't feel that that made it right or a fact. But after he left the Department of Justice, the issue has had less prominence. In regard to wildlife, I feel that fish and game, too, belong to the people of the state rather than the federal government. If the fish and game on federal land belongs to the United States, that could start a dangerous precedent in that the possession would be because of land ownership; and then it could go from there to a private landowner claiming that he owned the fish and game on his land; and to me that would be a horrible calamity for our sportsmen in the United States—could revert back then to the system that was carried on for centuries in Europe where the land barons had the sole right to fish or hunt on their lands.

In 1966, I was appointed by Dr. Armstrong to be on the Whittell Forest Board of Control. I mentioned previously, I believe I was a minority. Most of the others wanted it to be a "pure wilderness" and directed most of the attention to acquiring more land around the Little Valley donation, instead of determining where their University land was situated and planning for the use of it. Some considered it as pure wilderness, and to me that isn't true; because again, that had been logged over at the same time Tahoe Basin had been.

#### **RENO CITY PARK SUPERINTENDENT**

In January of 1967, Joe Latimore, city manager for Reno, asked me if I would be willing to be Reno City Park superintendent; Bruce Clogston, the incumbent, was going to retire for disability. I at first declined, because I had consulting work to do, and I knew there were others that wanted to be park superintendent more than I. So, I suggested that they consider the other candidates, and if none of them met his and the council's requirements, I'd be more willing to accept the first of July. One of the reasons regarding other clients that caused my reluctance was, I was a consultant for an owner of Redwood timberland in Humboldt County [California]. They had two hundred acres and wanted to log it. Some of it was virgin, but most of it was second growth, having previously been logged in the 1860s. I handled one sale for the owner, selling timber from forty acres, and proposed that the rest be logged forty at a time, spread over four years. I had several reasons for this. I felt a smaller area cut at a time, we could assure a better job of logging. Also, it would give the owners a better tax bracket. It would cause less impact on the watershed as a whole if only a forty per year were logged. There's another reason too; the timber was growing at the rate of 2,000 board feet per year per acre, and considering timber [was] worth a hundred dollars a thousand. That meant the land was growing at the rate of two hundred dollars a year per acre, which isn't bad for even cultivated lands. And then cutting a smaller area, it was possible to take better advantage of the market; when the price was up, sell, and when it dropped off, why I'd hold it awhile. This proposal was not acceptable. They wanted to cut it all, the remaining 160 acres in one sale. That was



contrary to my principle, so it was the end of being a consultant for the owners.

Just before Hr. Latimore's offer for me to join the city, I had a similar offer with the state of Nevada and declined, because I didn't want to be so confined. After my retirement from the Forest Service, I wanted to be freer to travel and also do consulting work in Idaho. But the city assured me that I could have sufficient leave time to both teach at the University and carry on my consulting work. I told Joe that I didn't expect to make it a career. I had felt that my career in public service was somewhat served with the Forest Service and the U. S. Navy. At the time I resigned, I was in a rather of a quandary, because in four more years, I could have qualified for another retirement, including the time with the University and with the city. So at that point, I either had to break it off or continue on even up to the present date, which would just about have amounted to ten years.

But [I] did accept the appointment July 1, as Reno City Park superintendent. That's July 1, 1967. The city manager, the councilmen, and the mayor were all, good friends, and it was certainly a pleasure to be working for and with them— although I learned some things about local politics that I had never realized before when I was with the Forest Service. As supervisor, my decisions and opinions were never questioned locally. Sometimes my superiors would question the, but the general public were either somewhat indifferent, or they accepted what we were doing. But when you're with the city, it seems that almost everything that's going to be done is controversial. As an illustration, at Virginia Lake and Idlewild, there are numerous white ducks, Pekin ducks, that are there as a result of little ducklings for the children at Easter. I decided that we would eradicate the white ducks. They were hybridizing with

the mallards, causing an ugly offspring that couldn't fly. So before I even got a good start, the people living around especially Virginia Lake, made such an issue (every white duck was sacred, it even had a name [laughs]) that I had to back away from good waterfowl management.

I explained to the city manager and the council some of my proposed changes in policy regarding the city parks—that being to acquire more land while it was within reach, and developing new parks, rather than concentrating all our efforts to grooming the existing city parks. I felt if we could obtain more lands, somebody in later years could bring them up to the standard for turf and flowers and shrubs. The council informally told me, too, that any planning was to be done by the park superintendent. Dick Taylor Park (recently—well, it was completed in 1967) was the only city park that had ever been completely planned and constructed according to plan. But the landscape architect's fees seemed too high to the council, so it was up to me to do the planning.

I should have mentioned too, I had to resign, of course, as a commissioner of the Park and Recreation Commission. While on the commission, I had worked with several of the council members and Mayor Quilici, and we acquired several key tracts of land for the parks. The last residence at Dick Taylor was purchased at that time, and part of the (later called) Ivan Sack Park was purchased. So even before being superintendent, I had a little part in land acquisition.

Oh. I didn't mention one other thing. When I became Reno's park superintendent, it was impossible for me to also continue as chairman of the executive committee of Lake Tahoe Area Council. So upon that resignation, they gave me a nice bronze plaque with a silver gavel and the following note: "Special

commendation to Ivan Sack by Lake Tahoe Area Council for meritorious service to the Council as a charter member of the Executive Committee and for unstinting dedication to the field of conservation in the protection and preservation of Lake Tahoe natural resources 1958 to 1967.”

One of the first projects after being superintendent was the development of Riverside Drive. This had previously been a rather rundown, eroded, worn-out strip between the street and the river. To meet the requirements of the Corps of Engineers, it was necessary to raise the height of the land or build a flood wall two and a half feet high above the existing profile in order for the river to carry 14,000 cubic feet per second during floods. A flood wall didn't appeal to me, so my first plan was carried out by raising the elevation of the ground two and a half feet, and placing a sidewalk along the top of the crown, and just doing some loose boulder riprap along the river's edge. I've received numerous compliments on the results. I felt we had enough flood walls downtown. We didn't want any more. I planted a number of oak trees along the sidewalk. But this was a project entirely done by park personnel, except the sidewalk that was contracted.

Then I started the development of the park—I'll say it this time—at the damsite. The Sierra Pacific Power Company donated part of the land that was occupied by the headgate for the big flume that connected with an old power plant and water processing plant near the intersection of Idlewild Drive and Booth Street. I liked to improvise and make use of things that existed, if possible, to save money. We used the headgate walls as a foundation for a patio and then erected a shelter over it. And the wall cavity also provided a place to house a pump for a sprinkling system. The city had a little water right that they weren't

using, so most of the park then was irrigated by pumping water out of the river. A formal, definite plan was never drawn up for the park. We sort of constructed it as we went along with our own crews; the blacktop foot path being the only part that was constructed by contract within the boundaries. say within the boundaries because the chain link fence on each side was contracted.

So, about the time the park was reasonably near completion I went to the Park and Recreation Commission to suggest that the area needed a name. I proposed either “Truckee View” or “Riverside View.” One of the commissioners ignored that and made a motion that the park be named “Ivan Sack.” Secretly, I was honored, but a little bit embarrassed, too. I explained to them it was customary to name parks after people that had passed on, and I didn't consider myself in that category yet. And I also visualized a little embarrassment on the budget in following years where we were asking money for Ivan Sack Park from the council. But that didn't seem to deter them. However, I asked the secretary, after the meeting, not to send at to the city council.

About a year later, an issue came up again for the naming of city parks. Bruce Clogston had passed on, and they wanted to name a park for him. And about the same time, Deputy Chief of Police [William] Brodhead was to be honored by having a park named for him. Well, in the discussion they were debating which park to name for the prominent deceased, and the damsite came up again, which I—I should have backed up and said one reason this area should have a new name is, we had called it “the damsite, and there's two ways to spell “dam, and there's two ways to spell “site,” and I didn't feel either one was appropriate [laughs]. Anyway, it came out that the previous damsite was to

be in my name. So then I had to yield, and we brought the minutes out, and it went to the city council, and they approved the naming of the former damsite, "Ivan Sack," and Brodhead Park along the Truckee River between North Street and Wells Avenue; and a Bruce Clogston Park on some public domain that we had acquired southeast of town.

I mentioned the Riverside Drive landscaping and flood control. I failed to mention that landscape architects did not like my plan or what was done. They thought that people driving along Riverside Drive in cars should be able to see the river. There just wasn't any way to build up the bank to retain flood waters and still have the river visible. So I tried to mitigate that by having an excellent view of the river from the sidewalk for the entire distance.

Speaking briefly about landscape architects; I feel that they would prepare better plans if they were required to maintain the area for one year. They have a tendency to include frills that are almost impossible to maintain—such as reflecting pools and ground lighting. It looks good on a plan, but they're almost impossible to keep clean or maintain or to prevent vandalism. And speaking of vandalism—that was one of the reasons I was glad to resign. To me, vandalism is one of the most difficult features of city park management or administration. And it occurs by all age groups. Among the adults, I consider it as malicious, but even pre-school children innocently cause some destruction. I learned that birch trees and alder trees are not practical to plant in city parks, because even the very young have an insatiable desire to peel the bark from the trees. As an illustration, we lost eight alders in the northwest park because children that had hardly reached more than four feet high, had girdled the trees [chuckles]. I found that

they do that at home sometimes, too, where they have that species. Some have the attitude that because of vandalism, you shouldn't try to do anything for the public. I never had that feeling. Maybe only one out of a thousand is a vandal, and it isn't fair to deny nine hundred and ninety-nine of the public of having some recreation facility. There are lessons to learn though, in how to develop so that a minimum of vandalism can happen.

In my courses in recreation at the University, I offered to give any student an "A" for the course if they could come up with a solution for vandalism. Of course, there is no one, single solution to the problem. It's a combination of developing with less chance of vandalism. I think public indignation, or the public not accepting destruction of recreation facilities can be better emphasized and then followed by better law enforcement.

As a result of the sidewalk previously mentioned along the Riverside Drive, and then the "Crooked Mile" that I designed, and that was rather a, just a fortunate coincidence—there was almost a mile of ugly levee along the river to keep floods out of Idlewild, and I decided we ought to do something with it. So we leveled off the top and built what is signed as the "Crooked Mile." It turned out to be one of the most popular features in Idlewild Park. So with that and the Riverside Walk, and a little more sidewalk, it, for the first time, was possible to walk along the river from downtown Arlington clear out to the Riverside Hospital.

Another thing that bothered me as Park Superintendent, was the frequency of accidents, both lost-time for the men, and vehicular accidents. I don't know what the cause was or is. For two years that I was supervisor of the Toiyabe, with hundreds of men working under very hazardous conditions, especially in fire or logging

operations or riding half-broken horses, we did not have a single lost-time accident. But it seemed chronic with our twenty-five permanent employees in the Park Department; somebody always seemed to be getting hurt. Another feature of accidents; they had a tendency to either conceal or ignore the vehicular accidents.

### TRPA

So during '68, it was a busy year for me. I was appointed member at large by the governor to serve on the Nevada-Lake Tahoe Regional Planning Agency. As I previously mentioned, I was teaching, I was Reno Park superintendent, and doing consultant work in my spare time. So, it was about time to start dropping something. My friends told me when I retired from the Forest Service to keep busy and not just sit around. And then in '68, those same friends told me I'd better slow up. In October of '68, Governor Laxalt asked me if I would be his representative or member at large for the Nevada-Lake Tahoe Regional Planning Agency. I say Nevada because until the compact by Congress was ratified, it was necessary for each state to have an individual agency. I was a little reluctant, because I knew of others that really wanted the appointment more than I did. But I stalled a little and told him I'd let him know in a day or two. I would have to find out if Joe Latimore, the city manager, would approve the appointment—thinking that Joe would be unfavorable. But to my surprise, he was enthusiastic. And so I told the governor that I'd accept. I had known Paul Laxalt for a long time as an attorney; we had worked together; and then as lieutenant governor and governor. So we pretty well understood each other.

The other members of the Nevada Agency was Lee deLauer, representing Douglas

County; John Meder, representing Ormsby County, or at that time it became Carson City; Walter McKenzie, Washoe County; and Elmo de Ricco, director of Conservation of Natural Resources, who by law was designated a member. They elected me as chairman of the Nevada agency. And although we lacked authority (at least until ordinances were passed), looking back, I feel even at the beginning we accomplished considerable, especially in the delay or prevention of development by subdivisions at higher elevations, especially in Washoe County.

It appeared to me, before we could have ordinances we had to have a plan, and of course, the act specified that a plan be prepared that included recreation, transportation, sanitation, land use, and utilities. We contracted Ray Smith Associates to prepare a plan. And I feel that, considering the short time allowed, it was a very good plan. And then of course, upon having a plan and public hearings, adoption of it, it came time for ordinances. I felt we had to have an attorney then. I was almost in a minority in that. Some of the others didn't see the need. But I persuaded them to seek legal counsel. It was impossible for the attorney general's office to provide us help, so we screened candidates and selected Richard Hanna, a Carson City attorney, who had previously been a district judge. The other agency members then asked me if I would clear Hanna's employment with the governor, and that I did. And I believe I was prophetic in insisting on an attorney, considering now that there's over two hundred million dollars in lawsuits.

In March, I believe it's the nineteenth—yes, March 19, 1970, the two state Tahoe Regional Planning Agencies were consolidated by ratification of the compact in Congress. At the time Governor Laxalt appointed me, I made a sort of a vow or promise that I would

personally inspect any proposed development or change on the ground before I would reach an opinion. The *Nevada State Journal* wrote a very complimentary editorial, a copy of which I will provide for the file, emphasizing my promise that I wanted to see what I was making a decision on. And while it was a Nevada agency, it was reasonably convenient. But then when California and Nevada consolidated, it was just impossible for me to see on the ground all that was going on, on the California side, and I always felt somewhat handicapped. I'd know many of the other members had not seen it either, but before I make a decision, I like to see it in its physical form on the ground first.

Governor Laxalt and I had similar ideals for the Lake. Of course, I wouldn't have been his representative if I hadn't. But there was one feature that we certainly agreed on, and that is that we should recognize that there is a city at the north end of the Lake and a city at the south end of the Lake. You might say twin cities, because the state line at each end divided the two, really metropolitan areas. And it had always been my feeling that cities should be developed in accordance with proper city planning and not be subject for the Tahoe agency, which was supposed to be regional in scope. As long as the two cities did not pollute the Lake or spread out an urban sprawl into the wildlands, I didn't feel that it should be too much the concern of the agency. Some people had hopes that Lake Tahoe area would return back to the condition that it was when Fremont first saw it in 1844. To me, that isn't realistic. We have, as I mentioned, the two cities, and we have to live with them. And if hotels, in accordance with good city planning, rise to twenty stories, I didn't feel that it was detrimental to the Lake as long as it would be within the confines, say a mile from the state line at each end of the lake.

Well, when Mike O'Callaghan then became governor, it was quite obvious that our philosophies were considerably apart. He was also concerned about a chance of my conflict of interest, being a consultant. So soon after he took office, I resigned. I knew that there were others that wanted the appointment more than I did and felt that one or two of em could do a better job than I did. So upon resignation, I received another complimentary editorial in the local paper, but it wasn't as glowing as when I was appointed. It's a very difficult for an agency to adopt ordinances that is agreeable even to the majority. However, I believe they could have averted a lot of their difficulties if they had followed my "city" concept and concentrate efforts on the undeveloped wildlands, instead of worrying about speed limits, both on the water and on the land, other minor details that has very little to do with the purity of the Lake.

I've mentioned the purity of the Lake so often. I'm far more concerned with the Lake itself than I am with the wildlands around it. Once the Lake becomes contaminated or polluted, man has no means of rectifying it. But if man abuses some of the lands, there's technology as to how to heal the scars. I don't want to be a pessimist, but I anticipate someday there'll be a very destructive fire that'll wipe out a subdivision—probably started because the houses, wooden houses were too close together. Some hot, windy, August afternoon, the fire'll sweep up the mountainside, and I hope then the agency will have influence to acquire—for some agency to then acquire—those lands as well.

Upon my resignation, the other nine members of the agency adopted a very complimentary resolution recognizing my services. I believe they were sincere, and I think several of them were sorry that I had left the agency, perhaps more sorry than I was.



Oh, I'd like to mention, too, back to the Regional Planning Agency, I submit a copy of the minutes of one meeting as an example of what transpired during the Nevada Agency period; this covered the meeting of June 24, 1969. And I turned over all of the other material to Ray Knisely that took my place.

Speaking about the Nevada-Tahoe Regional Planning Agency, the act of the Nevada Legislature was signed into law by Governor Laxalt on February 19, 1969. I believe this is worthy of note, historically, for the people of the state of Nevada. The bill passed the senate unanimously. There was only one dissenting vote in the assembly, and they tell me that was because a woman from Las Vegas didn't understand it and thought that the Indians should have had more water. Of course, that was another controversy that was in process. But to me that indicates the entire state was strongly in support of the protection, the planning, the preservation of Lake Tahoe and the surrounding land. To make it more amazing, the bill could have been controversial because there was a rider in it that provided for condemnation of Tahoe lands for a Nevada state park, and also, it included appropriations of money for the agency. So I think as a tribute to Nevada as a whole, they wanted to be sure that Lake Tahoe was protected.

It was my observation, as chairman of the Nevada agency, that (almost always) all the members voted on a motion or issue unanimously. It sometimes startled me, made me wonder whether it was because of indifference or lack of knowledge—such as following the leader. But looking back on it, it seems to me that for the good of the Lake, there was only one way to vote; and I'm quite sure that none of the members voted because of outside influence or direction by the people that they were employed. I

know that Governor Laxalt never once told me how to vote on an issue. Of course, he knew what my policies and principles were, and it was in accordance with his opinions or I wouldn't have been appointed as his representative. But going back one step farther to the Lake Tahoe Area Council, which was one of the motivating forces to obtain a state law creating the agency. As chairman of the Executive Committee, it rather amazed me how banks, utilities, and casinos all supported the council, both with finances and time of their executives. To me, they did it because they were sincere in wanting to protect the Lake. Perhaps it was good public relations or advertising for them to be do-gooders, but it gives me faith and confidence in business, all of which seemed to be seeking a common goal for the good of Lake Tahoe.

I was rather frightened as a member of the Agency, with the amount of power that the legislature had bestowed upon us—that is, after the compact was ratified. And I think we all felt, with this authority, our decisions better be right, 'cause if they weren't or if they were biased or distorted, there could be a terrible abuse of power.

When the agency was first formed, Lee deLauer was appointed by the Douglas county commissioners as their representative on the agency. At that particular time, I'm not sure who Lee deLauer was working for. He had jumped around from one position to another. I do know that he had been on the Douglas County Planning Commission for quite some time. Lee and I didn't always agree on, you might say, the approach or the procedure—to me he was somewhat feisty—but in the end we saw things for the final vote quite synonymously. 'Course, Lee was on the Tahoe Area Council board for some time. I didn't always appreciate the way he



went at a subject [laughs] and several times have been known to have corraled him—but at the same time I believe he sincerely tried to represent Douglas County for the good of the Lake. And I have a suspicion since Lee and I are no longer members of the agency, the attitude of Douglas County has somewhat changed. John Meder, the Ormsby County (and about that time Carson City) had him as their representative; and it would be hard to imagine that John had any ulterior motive, because there was no development, not even a resident in Ormsby County, on the Lake Tahoe watershed. I really believe he was dedicated to good planning.

Walt McKenzie was designated agency member by the Washoe County Commission, and I sincerely feel that Walt was operating on his own. I don't believe the Sierra Pacific Power Company directed him in his deliberations any more than the governor directed me. Previously, Walt had been on the Washoe regional planning board, and was well known for his efforts. Several times I briefly mentioned to Walt my concern whether the Washoe county commissioners were fully informed of his position. Of course, Elmo deRicco was somewhat similar to that of my appointment. As director of Conservation and Natural Resources, he was appointed by the governor as well. So, he and I certainly didn't want to be averse to the policies of the governor, but I don't believe even then that Elmo was dictated to as to what position to take.

Oh, I might add too, that Elmo de Ricco as of March 24, 1975, is the only member that was originally on either the Nevada agency or the joint California-Nevada agency. So, in four years there's been a tremendous turnover. Being an agency member isn't an easy assignment. I know all of us, and I feel

sure those that are still agency members, do much deliberation, worry, and thinking about the good of Lake Tahoe other than the time they're attending meetings.

### **TRAVELING DAYS**

On October 4, 1968, I retired as commander in the U. S. Naval Reserve. Just prior to this, I had sent a feeler to see if I could obtain orders to Vietnam [laughs]. I had several motives. One was I wanted to see what was goin' on over there. I thought I might be a service to them in photo intelligence. And selfishly, I thought I might get a promotion to captain. But instead of orders, they sent me forms to fill out for retirement. After two months—this was in typical Navy process—I began to get the preliminaries for orders to Vietnam. But my retirement then had passed [chuckles] too far to retrieve.

In September, 1971, I resigned as Reno Park superintendent. For the first time in my life, I was really beginning to get tired. Sometimes before, I'd be tired physically after a hard hike, or on a fire, or in a strenuous hearing, or other office work—become tired mentally. But I noted at this time, there was a combination of both being physically and mentally tired.

In 1972, the California legislature enacted a law requiring that professional foresters be licensed to practice in the state. So with my even limited consulting work in California, I received a license in 1973 under the "grandfather" clause that required previous ten years of professional forestry practice.

In 1974 then, I had a new experience: one of these new educational TV 'courses; enrolled through the University of Nevada

and took the “Environmental Impact Reporting and Evaluation” course, and received a certificate, having passed that in June of ’74.

\* \* \* \* \*

Now, I’d like to tell about one of the most pleasant trips that I have ever enjoyed. On July twenty-sixth to the thirty-first, in 1967, there were seven of us made a float trip on the Middle Fork of the Salmon River in Idaho. We started at Middle Fork Lodge with a well-equipped boat runner—the Guth brothers. Our party consisted of Pete (I won’t try to pronounce his name) Stavros, Rex Lanham (who I’ll mention a little later), Maurice Sheppard, Lloyd Dyer, Chuck Munson, and Wallie Warren, and myself.

Even in the bottom of the canyon at that latitude and that elevation, it’s hot during the day. But we weren’t in any great hurry and leisurely floated along with the current. There was just enough rapids to keep us alert, and observed wildlife along the banks as we pursued our course to the main Salmon. I believe I counted twenty-nine mountain sheep. We saw deer. Rex and I saw three otter one evening. Next morning we saw three mink just across the river from us, and the lower portion swarmed with chukar partridge.

I kept a plant list, and it’s surprising how limited the variety is, compared to the Sierra. I think I only totaled about ninety-five different species. There is one tree that might be worthy of mention, that is along the main Salmon there’s the western hackberry, *Celtis douglasii*. The only place I found this tree along the Middle Fork was at caves or where there were overhanging rocks that served as places of shelter for the Indians. Many of

these spots still have the Indian pictographs evident. My theory is that the Indians carried the seed from the main Salmon to their upstream camps for food and probably through the centuries, dropped a few seeds, and they germinated and grew into trees.

A similar experience, digressing a little bit from the Middle Fork, was an observation I made along the trail to Feather Falls (a tributary to the Middle Fork of the Feather River) on my trip last June; I saw a black walnut tree growing along the trail, recognizing it as *Juglans hindsii*. It was a large tree, and I looked at it and was rather amazed to find one way out so far from its normal habitat. So I thought there must be an old Indian camp around in this area. Walked a little farther and found some of those stone slabs where the Indians had ground meal in the conical depressions. I read later that in Jepson’s manual, the distribution of this species of walnut was in the vicinity of Mt. Diablo—and at old Indian camps. It makes me think perhaps the Indians, through the centuries, had a lot more to do with the distribution of our native vegetation than some of us realize.

Since retirement from the Forest Service, my consulting work in natural resources in Idaho has been really more of a pleasure than labor. I have served for nine years with Middle Fork Lodge, the Idaho Outfitters and Guides, and more recently for Mr. Harrah in connection with his wildland properties at Stanley. They all seem to be appreciative of my work and never take exception to it. Sometimes my recommendations are not carried out as rapidly as a consultant might think. One example: in 1967, I recommended to Mr. Harrah that an old homesteader’s cabin that was built in 1905 be restored to its original condition—somewhat similar to the

way he has restored antique automobiles. He made a note in his little book, but nothing happened until 1974, and then the cabin had been restored to just the way it was when the homesteader built it and lived in it to prove up on his homestead patent.

There are a number of acts of Congress that affect the people in the back country of Idaho, and I might briefly summarize some of these more important acts to show how they have influence on the people that live and operate in that area. Of course, one of the first acts was the Homestead Act of May 20, 1862, and then there were two subsequent acts, June 11, 1906 and August tenth of 1912, where national forest land suitable for agriculture could be homestead. Of course now, none of the national forest land is open to homestead entry. But most of the private land in the present Idaho Primitive Area was acquired by homesteads. In about the time of World War I, the theory was that everyone that could, should be producing agricultural products for the war effort. However, in this remote area, at least twenty miles from the nearest road, it was a little vague as to what they grew in support of World war I. Then of course, the Idaho Statehood Act, July 3, 1890, has a bearing along the Middle Fork of the Salmon, because of the federal government granted Sections 36 and 16 as school sections, at the time of the act, and also, the ownership of the land navigable-waters occupy, both rivers and lakes, to the normal, high shoreline. So assuming that the Middle Fork is a navigable river, the state property line adjoins the property line of the homesteaders along the river.

In 1937, the Pittman-Robertson Act passed. That is where firearms, ammunition, hunting supplies were taxed by the federal government, and then the federal government returns the funds on a matching basis to the

state for wildlife habitat or other functions such as research. The Idaho Fish and Game Department, with Pittman-Robertson funds, purchased several of the old homesteads along the Middle Fork, and then Middle Fork Lodge leases those lands for the surplus forage, with the agreement then that the Lodge will maintain the lands and irrigate them, keep them productive.

In 1960, the Forest Service Multiple-Use Sustained Yield Act was passed, which recognized wildlife and wilderness as two of the various uses. The entire Middle Fork is within the Idaho Primitive Area, and the Outfitters and Guides, Mr. Harrah, just about everyone that I know of except the miners and the timber industry, want to see the Primitive Area reclassified to wilderness in accordance with this Wilderness Act of September 3, 1964. Several organizations, including the governor and the Sierra Club, the River of No Return Wilderness Council, seek far larger areas for wilderness than the present Primitive Area. Mr. Harrah and those at Middle Fork Lodge are especially anxious to see the wilderness expanded to the south to include all of the watershed of Thomas Creek that flows into the river at the Lodge property.

I mentioned previously, my letting my membership lapse with the Sierra Club. I have renewed my membership now; not that I agree with all of their objectives, but we are in agreement in regard to wilderness.

At the same time and the same portion of Idaho, they have proposed a Sawtooth National Park, and I have opposed that both as an individual, and then my clients have opposed it, too. The Outfitters and Guides and Middle Fork Lodge are very concerned about the effect to close this large an area to hunting. It will just increase then, the hunting pressure in the remaining area that's

open. The Sawtooth National Recreation Act of August 22, 1972, specified that the National Park Service would make a study of the area and recommend to Congress by December 31, 1974, whether the area should be a national park or not. By the same act, the Sawtooth Mountains became a wilderness, and the townsite of Stanley was included within the national recreation area, so we are participating with the Forest Service and the planners in preserving the town in its old, rustic, ranch atmosphere.

Then going back to 1968, October 2, the Wild and Scenic River Act passed. And the Middle Fork of the Salmon automatically became one of the wild rivers, which means that it can never be impounded—that is no dams nor diversions; it must remain free flowing. Although another section of the act that is concern to us, allows the federal government to condemn private lands along the river for scenic easements. We are quite concerned with this and don't feel really that it's necessary when over ninety-seven percent of the river, which is 103 miles in length or making 206 miles of shoreline, less than six miles of that is in private ownership. So to us, there's plenty of natural scenery on the balance of ninety-six percent of federal and state lands.

I should have mentioned a little earlier too, there are school sections on the Middle Fork that Middle Fork Lodge leases for outpost camps for hunters.

Getting closer to home, the Middle Fork of the Feather River is also a wild river, wild and scenic; even starting in Sierra Valley, classified as a recreation river. And then along where it's accessible by either railroad or highway, it's classified as scenic, and then from Nelson Point almost to present Lake Oroville through Bald Rock Canyon, it's a wild river. I mentioned that because I spent one summer

in 32 surveying this particular stream and not realizing that some day it would become a national wild river.

I've done more flying in the mountains and back country since being a consultant for my clients in Idaho than I ever did when I was in the Forest Service or even during my time in air intelligence with the Navy. Sometimes it's a little bit hairy, considering bad weather. I mentioned Rex Lanham previously; he's one of the great old time bush pilots in Idaho. And I'd guess that in the last ten years I've flown with him a hundred hours. Of course, Harrah's have a Twin Otter and a single engine Cessna for the back country. And I feel greatly relieved that Mr. Harrah demands perfection as far as his aircraft are concerned and the best of pilots. I remember in July of '73, Rex Lanham flew me into Pistol Creek—that's a small subdivision on the Middle Fork about twenty miles above Middle Fork Lodge. I was to meet with some of the landowners there during their annual summer meeting. The strip to me, is horrible. The approach is a dog leg, and there's only one direction of takeoff. Well, Rex and I parked the plane and attended the meeting, and went back to the plane about noon. I would guess it was about one hundred degrees in the sun, and the plane showed no signs of life, ignition, whatever. So, we took the cowling off. Rex had a knife and I had a dime. We got the screws out [laughs]. No tools. I don't think he knew much more about the inside of the cowling than I did. We jiggled wires and thumped a couple of breaker boxes, and heard a buzz. So we got in the plane and fastened our seat belts. Rex says, "Are we optimistic?" And I said, "If I was a pessimist, I wouldn't be here." "Well," he says, "If we can get it flying, we'll be all right." [Laughs.] So we took off and flew up out of the canyon, and headed for Boise. The air was very turbulent, and Rex wasn't feelin' well—I

guess from the heat in the valley. So he asked me to fly the plane to Boise. All I knew was Bogus Mountain to head for [laughs]. We got there, but I don't think I could ever be a pilot, because I don't think I could ever learn to land an airplane. If it had a glass bottom where I could look down and see the runway under me, I might do it. But this landing into the horizon, which is the standard procedure, isn't for me. It's surprising too, how hard it is to hold a plane on course both in direction and elevation in turbulent air. Pilots earn their way.

Our daughter Meredith was married August 26, 1966, to Ron Bath, an upperclassman at the University of Nevada majoring in education. Meredith was a teller in the main Security National Bank office.

In July of 1971, I attended with Dr. Gil Lenz and his wife, Elizabeth, the Flournoy's Centennial Anniversary. We drove to Likely, California, and enjoyed the opportunity to see again many of my former Lassen and Modoc County friends. I'd like at this point to say a word about Dr. and Mrs. Lenz. To me, they perhaps, have done more for our community as any husband and wife than any others I know of. Elizabeth has twice been elected chairman of the Washoe County School Board and also serves on the County Board of Equalization, as well as on the Regional Planning Commission. Dr. Lenz has been a strong supporter of many of the cultural and other good things for the community. I don't want to brag about my doctor, but it's a great satisfaction to have full confidence in him, and I have had for twenty years. If he told me it'd be necessary to amputate my head, I'd take his word for it. I might question the source of the transplant [chuckles].

Well, as time moves on, my father died April 21, 1970; and my mother died August 8, 1974. They were both near the eighty-ninth

birthday and lived a full, good eventful life. It pleased my father greatly to have been a young man when the Wright brothers had made their first flights, and then to still be living when they made the first walk on the moon. Especially he was pleased because it was the United States got there first. And what pleased my father, pleased my mother. As a coincidence, she died the same day that former President Nixon announced his resignation. If she had to go, I'm glad that she never knew of this national tragedy. For me there were two tragedies at the same time. Unfortunately, my parents never saw their two great grandchildren. Eddie Bath was born November 28, 1967, and Shilo [Bath], a little girl, was born September 9, 1972. As soon as mother and daughter were doing well, I started on my first long trip since the World War II days.

\* \* \* \* \*

Went to Alaska, flying from Seattle to Anchorage, then by bus to Fairbanks. I had a prospect of being a consultant for the construction of the Alaskan pipeline. But it would have required living through the winter at Fairbanks, where fifty below for weeks at a time is not unusual, and it's the highest price city I've ever been in. But I was interested in the pipeline to try to assure myself that it was a good project ecologically, and without outside influence, that is my opinion. I was surprised to see that pipelines are nothing new in Alaska. When the Al-Can Highway was constructed, there was a pipeline along the entire route from Fairbanks to Whitehorse. There's another pipeline from Haines, a little inland passage ocean port, up to that pipeline. There's another pipeline from Skagway to Whitehorse. Even though they were smaller, they were built for a crash project, and the



environment was not considered whatever. And I can't see that they have caused much harm. In the summer, if there's a small leak occurs in the line, the small patch of vegetation surrounding the leak, turns yellow. In the winter, if a leak occurs, it melts the snow, so the leak can be detected.

From Whitehorse, I continued then on to Skagway and came back to Prince Rupert on one of the Alaskan ferries. thought they left the port five minutes ahead of time, but actually they left twenty-three hours and fifty-five minutes late.

As to vegetation in Alaska, I was again surprised at the limited variety of forest trees. There's only one pine that grows in Alaska. That's the lodgepole. I mentioned before—there are no oak, two or three spruce species, and then in the Panhandle (lower elevations) there's hemlock: Sitka spruce; extreme south, a little Douglas fir. I did find two species of *Artemisia* (sagebrush) that grow only on the sunniest, steep, rocky slopes. I don't think the United States will have a paper shortage for a long time, considering the vast stands of birch and spruce growing in the inland.

One of the things I too, wanted to observe to support my previous theory about fire being a natural factor of the environment—there hasn't been fire protection in the inland part of Alaska or the Yukon, so I wanted to see what happened without control and how the heavy fuels might be disposed of by natural burning. To my amazement, I found that it isn't uncommon for a million acres to burn. So, my theory changes a little. For good resource management, I don't think we can afford to sacrifice a million-acre fire. So, no protection isn't the answer, while too intensive protection isn't the whole answer either. So I believe, at least for our country in the lower forty-eight, a sort of a compromise between the two—allow creeping ground

fires to burn the heavy fuel, and if they occur at the wrong time or get out of hand, it's going to take suppression means. That applies both to the national parks and the national forests; well, to some extent BLM lands, too.

Not having seen enough of Alaska on this occasion, the next summer, 1973, my son and I made another trip. This time we flew from Seattle to Ketchikan. A new airport that hadn't been dedicated yet, the weather had closed in for three days. It was only a fifty-fifty chance of making it. The first time I ever heard the passengers give a cheer was when we landed [laughs]. One thing impressed me at Ketchikan was their library. I've always considered the interior of the Washoe County public library here in Reno as being the most beautiful and pleasing that I've ever seen. But their library, the exterior should win the prize! It's built out over a cascading stream, mostly through rock formation, and within the library you can just hear a slight murmur of the stream, look out through large picture windows and see wild country right from the library.

I had hopes on this trip of going to Valdez and Cordova. I hadn't made that on the first trip. So we stopped at Haines, and there's no commercial air service. So I thought well, I'll charter a plane to fly over to these two points. Valdez, especially, that is the lower terminus of the pipeline. But it rained, and there was zero visibility for three days. Gave that up; thought we'd try another approach. So we took the ferry around to Skagway and took the narrow gauge train up to Whitehorse, reversing the route that I had taken the year before. When I got to Anchorage then, I tried to make reservations at either Cordova or Valdez, for hotel or motel; no chance. Then I found out even the ferry was filled to capacity. So we gave that up and flew home.



Since our trip was cut a little short in Alaska, then in October of '73, I took the Amtrak train from here to Boston and then a bus to Portland, Maine. I'd heard all my life about the sensational fall colors in the New England states, so I wanted to see them. I was somewhat disappointed. To me the Wasatch Mountains in the fall with the large areas of red oak or even the aspen thickets on the Carson Range are more spectacular than New England. One reason, the whole country is so flat. Oh, there'd be a bright maple here and there, but you can't see anywhere. Then I took a ship over to Nova Scotia and wasn't any more impressed. The highest point on the whole island is only fifteen hundred feet above sea level. So to me it's rather flat, drab, and dull.

[My son] Norris graduated from the University of Nevada in June, 1974 and went on his first professional position with U. S. Gypsum in Ohio. So now the family is either grown or gone, and I'm free to do more traveling. Last September, I went on a P and O ship Arcadia to New Zealand and Australia. We stopped off at Hawaii and Fiji, but that was nothing new to me, except the only vessels I had sailed on previously were war ships, so it was a good experience to cruise in more luxury.

I wasn't especially impressed with the people in New Zealand. It seemed to me they felt they were a little superior to even the Australians and the Canadians, which was the predominant nationality on the ship. The highlight of this trip, to me, was taking the excellent train from Sydney clear across the continent, through the "outback" to Perth, where we could see emus and kangaroos running from the track, something like rabbits we observed from our train. The Australian people are extremely friendly. I

was the only foreigner on the train, and they wanted to be sure that I was both educated and entertained. I was a little disappointed in their botanical gardens. The one at Sydney, right adjacent to the new opera house, is large and well maintained, but it's very seldom that you can find a sign to identify either a tree or herbaceous plant. And I had the same experience at Perth. In fact, one botanical garden, at least shown on the map around the government house, is not open to the public [laughs]. They do have a California section in the Kings Park at Perth, and it's amazing that some of the smaller shrubs native to California grow to tree size in Australia. The only tree native to Nevada that I saw was incense cedar, *Libodrocedrus decurrens*. And surprisingly, there wasn't a sequoia or redwood, *Sequoia sempervirens*, in the Californian section of the botanical garden. I had my first experience with the huge eucalyptus that grows in western Australia, reaching a size almost of that of the coast redwood.

From Perth I flew to Melbourne, visited another botanical garden that wasn't labeled any better, and then left Melbourne at three in the afternoon to Sydney. Left Sydney at six, October 29, and was in Reno at six October 29. Flew direct from Sydney to Hawaii. That was the longest over-ocean hop that I've ever been on—nine hours plus. Too long for one sitting.

I've always tried to avoid traveling with tour organized. I still want to go on my own, and go where I want to and not where the tour tells you to. I joined up inadvertently with one tour group from Anchorage to Fairbanks to Whitehorse, on the bus; and they're regimented too much for me. They have the habit of getting people up at six in the morning to vacate the rooms, and

then sit around and wait 'til between eight and nine before goin' someplace [laughs]. So as long as I'm physically able to travel on my own, that's what I want to do. And I want to do all the traveling I can while I'm young enough to enjoy it, or put it another way, before I'm too old to enjoy it. Someday then, I may have to go with organized tours to tell me when to get up and where to stay and what to do.

The voyage to Australia stimulated my appetite for ocean travel, on the surface, not in the air, so in May 1975 I boarded the Santa Mercedes, a Prudential liner-freighter at Los Angeles for a cruise all the way around South America first through Panama Canal and back to the Pacific via Strait of Magellan. The cruise was for fifty-two days, so I had time to refresh on oceanography, marine life, birds of the ocean and tropical forests as brought along manuals and handbooks on the subjects.

We touched upon all nations of South America except inland Bolivia, also visited Manzanillo, Mexico, and Curacao, an island in the Caribbean Sea. A highlight of the trip was flying inland to Iguazu Falls rated as second greatest waterfall, a tributary to the Parana River, near the point where Brazil, Argentina and Paraguay boundaries join.

On the ship among new friends were public relations & or the steamship company. We discussed means to break the monotony for the passengers while at sea for a week at a time. I suggested a series of informal lectures about wildlife of the ocean that all could see. The officials learned of my profession, experience and interests, so asked me to present a program as a guest of the company on a cruise in 1976; about twelve lectures were suggested. I enjoyed the trip so much that I disembarked at San Francisco instead of Los Angeles as originally booked.

The company was anxious for my ideas as a pilot project, so in June 1976 I sailed from San Francisco on the same ship with an outline for twelve lectures and fifty pounds of books for reference. I was confident because of my previous experience teaching Interpretation of Natural History at UNR, another pilot project.

Soon after sailing I was amazed how little the ship personnel knew about the Endangered Species Act that prohibited passengers from bringing home certain skins, hides or other animal parts on the restricted list; so my first appearance without preparation was explaining what not to buy in foreign ports, especially leather goods such as alligator, crocodile, cayman and some members of the camel family.

I had two slide lectures, one of the Iguazu Falls from photos I took the year before, the second subject was vegetation of Strait of Magellan and Tierra del Fuego. Dr. Joe Robertson of UNR provided the slides from his trip in the area March 1962. It seems the program was popular as attendance increased as time went on, and had twenty-one sessions instead of the twelve originally planned, was invited back for a 1977 cruise, but I wanted to see some more of the world.

On January 18, 1977 I boarded at New York the S.S. *Rotterdam* a posh Dutch ship for a seventy-six day around the world cruise. A new sea experience for me, the size and design of the ship obscured the ocean. The eight hundred passengers were aboard for entertainment similar to that of a luxury Nevada hotel. Trips ashore was more to my life style. Most remembered was a short safari from Durban and Mombasa, Africa where I saw in the wild most of the native big game animals. Much of what I observed in India was depressing, especially Bombay and vicinity.

From Singapore was interested on a tour over part of Malaysia. In 1944 I had written about the vegetation of the area when it was held by the enemy\* so thirty-three years later was there on the ground. Greatest change noted now: Forests have been logged and there are more rubber plantations. Agriculture has become diversified. Visit to Japan seemed ironical. From 1941 to 1945 we were trying to destroy the nation and now in 1977 was there as a tourist visitor. Too crowded for me at the ports so was glad to be back on the ship headed for the USA.

In connection with my travels—of course I always wanted to maintain residence in Reno—always want to come back here. But I think I mentioned before a practice that I started in 1970 of going back to the same area forty years later. And I want to continue that, and next summer, it will have been forty years since I first started working on the Modoc National Forest, so I'm anxious to see the change. I feel in general, what I've observed so far, it's been a change for the better.

As a district ranger I was too anxious to get out on the Devil's Garden district in early spring of 1936 before the poorly drained secondary roads were open across adobe flats, consequently would get stuck in the mud, where a pickup truck should not be, miles from any help. Those were the days before there were four-wheel drive vehicles. I especially remember one predicament trying to travel, all four wheels mired down, I could make about three feet an hour to get out, but the swarms of mosquitos were terrible. I could fight the mud or fight mosquitos, but the combination was too much, so walked five miles to a ranch, borrowed a team of horses and pulled the truck to dry ground. In the timbered area of the district many trees would fall across the roads during the winter

so traveling alone would cut sections of logs with an ax to clear the road, became fairly skillful as a woodchopper, before chainsaws were invented.

During July 1976, forty years later, I visited the Modoc and district to observe changes. There was great contrast. Primary roads are much improved with drainage and gravel, cattle guards replaced gates, but secondary roads that we used are now almost impassable to common vehicles. They are now jeep roads; however, there are many new low standard logging roads built in the past twenty years. In 1936 all of the timber was virgin yellow pine and white fir. Since 1950 most of the private owned timberland has been cut over with slash left in the area.

The year before my visit (1975), there was a one thousand acre fire in the cutover area just east of my old Crower Flat ranger station. A fire of this size in 1936 was a remote possibility in the timber types, although I worried about it when lightning struck and burned one tree.

In the timber types I noted an obvious change in forty years. There is now much more yellow pine reproduction. This is easy to verify by counting the number of trees less than forty years of age. The pine has invaded overgrazed dry meadows and rocky flats. Previously good, natural barriers to ground fires, but not now. By the spread of young pine, areas with mountain mahogany, *Cercocarpus ledifolius*, have been killed by the overstory of pine; with shed needles and dead mahogany there is a combination of flashy and heavy fuel.

The foliage of mountain mahogany is good deer browse. believe I started in 1936 the practice of not selling living mahogany

---

\*See *Vegetation of the Pacific*

for fuel while there was dead wood available, now it appears dead material supply exceeds the demand more than before.

The workload of the District has increased. During the summer of 1936 there were four employees; last summer there were thirty-six, yet more area burns currently. For the juniper sage types, range has improved. Now much more perennial grass reaches maturity to reseed.

About the only fault that I might have found are areas that have burned since that time or areas of severe logging, where the second growth has not come back as fast as foresters had hoped. There are, every place, far more recreationists than we had in those days. It's not unusual now to see boats on automobiles out through the mountainous area [chuckles] miles from any lake. I have a suspicion that the deer population is slightly on the decline in the last three or four years. But I do not believe it's at as low a point as it was in the early '30s.

Then in '76 see some more of the Modoc, some of the foothills of the Sierra, where I worked forty years ago. And then in '77 and '8, return to the Sequoia, hoping that I'm around by that time.

I made a few notes on the previous observations, so it isn't relying entirely upon my memory, and I have a few pictures, and then I made a few notes since then. However, some places where there have been roads constructed since I was there, I think I know the area, and I'm lost. I can't get oriented. I have always been, I guess, blessed with a somewhat of a photographic mind. I have a mental picture of every place that I've been. But then when they change the picture, I'm at a loss.

In closing, I'd like to express my appreciation to Mary Ellen Glass for her interest, and patience, and inspiration, and

say that history is never complete, nor is a closed book, and I feel I am far in excess for a person of few words [chuckles.]



---

## ORIGINAL INDEX: FOR REFERENCE ONLY

In order to standardize the design of all UNOHP transcripts for the online database, they have been reformatted, a process that was completed in early 2012. This document may therefore differ in appearance and pagination from earlier printed versions. Rather than compile entirely new indexes for each volume, the UNOHP has made each transcript fully searchable electronically. If a previous version of this volume existed, its original index has been appended to this document for reference only. A link to the entire catalog can be found online at <http://oralhistory.unr.edu/>.



## A

- Abies concolor* (white fir), 90
- Adams, Maxwell, 387
- Aerial photography, 48, 133, 139, 140, 174, 184, 195, 202, 203, 216, 217, 220, 222, 223, 229-230, 232-234, 236, 239, 240, 266, 290, 347, 389-390. *See also* Photo interpretation and intelligence
- African Game Trails* (Roosevelt), 8
- Agricultural Adjustment Administration (AAA), 83-86
- Agriculture college (University of Nevada), 314, 328, 385, 402, 406
- Agriculture Department, U.S., 120, 130, 256, 379
- Air Corps, U.S. Army, 110, 233
- Aircraft, 110-112, 204-205, 211-212, 213, 215, 216, 232, 238, 358-359, 362-363, 374-375, 409, 446-447. *See also* Aerial photography; Aircraft in firefighting
- Aircraft in firefighting, 39, 250, 317-318, 352, 363, 374
- Air Force, U.S., Thirteenth and Fifth, 214-215
- Alameda Naval Air Station, 241, 294
- Alamosa, Colorado, 1, 184
- Alaska, 449-452
- Aleutian Islands (Alaska), 168, 232, 235
- Almanor, Lake (California), 42, 43-44
- Alpine County, California, 317-318, 383, 392, 393, 396-398
- Alpine elevation (Boreal), 174
- Alpine Land and Reservoir Company, 291
- Alturas, California, 75, 76, 170, 172, 177, 181, 183, 185, 186, 191, 192,
- Alum Creek (Nevada), 360-361, 393
- Amalgamated Fishermen, (Susanville, California), 284, 311
- Ames, Iowa, 2
- American Forest* magazine, 330
- American river (California), 151, 152
- American Telephone and Telegraph Company (AT&T), 286, 287
- Anaconda Copper Company (Yerington, Nevada), 292
- Anacostia, D.C., 188, 224
- Anacostia river (D.C.), 189
- Anchorage, Alaska, 449, 452, 455
- Anderson, Ann, 73
- Anderson, Fred, 321
- Anderson, Mark, 256, 257
- Anderson Creek (California), 168
- Angeles Forest (California), 135, 153
- Annapolis, U.S. Naval Academy (Annapolis, Maryland), 202, 203, 231
- Antelope Valley (California-Nevada), 294, 367, 397
- Arcadia (P&O ship), 453
- Arctic Circle, 232, 235
- Arctostaphylos patula* (manzanita), 89

- Arcularis, Frank, 309  
*Argemone hispida* (prickly poppy), 372  
 Arizona, 32-33  
 Arizona, U.S.S., 194  
 Armstrong, Charles J., 344, 387, 420  
 "Army," 54  
 Army, U.S., 57, 183, 248  
 Army, U.S., Americal Army Division, 214  
 Army Air Corps, 183  
 Arnold, H.H. "Hap," 110, 191-192, 236-237, 238  
 Arrowhead resort (California), 124  
 Arroyo Grande Sportmen's Club (Santa Barbara, California), 250  
 Arroyo Telmo (Mexico), 155  
 Ashley National Forest (Utah), 336  
 Aspen Grove (Utah), 260  
*Atlas of American Agriculture* (Shantz, Zon), 147  
 Atmospherium-Planetarium (UNR), 416  
 Auckland, New Zealand, 373  
 Audubon Society, 145, 408  
 Austin, Nevada, 143, 295, 300, 308, 311, 370, 375, 376, 379, 394-395  
 Australia, 220, 453-454  
 Australian coast watchers, 218
- B**
- Bacon, Fred, 127, 128, 193, 227, 239, 240  
 Bailey, Fisher, 312-313  
 Bailey, Margaret, 312-313  
 Baja California, 154  
 Bald Rock Canyon (California), 52, 446  
 Barney Lake (California), 346  
 Barrett, Frank A., 253-254  
 Bartholomew, Paul, 137  
 Barton, Sam, 194, 196  
 Basques, 46-47  
 Bath, Eddie, 449  
 Bath, Meredith Sack, 253, 448  
 Bath, Ron, 448  
 Bath, Shilo, 449  
 Battle Mountain, Nevada, 20, 370, 395  
 Bear Wallow (California), 111-114  
 Beaver, 81-83, 179-180  
 Beck, Alicia, 405  
 Bees, 130  
 Belford, Judge, 298  
 Belmont, Nevada, 366  
 Benson, Dorothy, 415-416  
 Benson, John, 415-416  
 Berlin, Nevada, 371  
 "Bettys" (squadron of bombers), 204  
 Bible, Alan, 323, 342  
 Big Bear, California, 313  
 Big Creek (Nevada), 373  
 Biltz, Norman, 302  
 Birds, game, 135-136, 181, 182, 300  
 Bishop, Anne, 417  
 Black Hills National Forest (S. Dakota), 368  
 Bogus Mountain (Idaho), 447  
 Bohmont, Dale W., 387, 388, 390, 402, 406, 413, 418  
 Boise, Idaho, 196, 341, 447  
 Boise National Forest (Idaho), 276  
 Bombay, India, 457  
 Bonneville federal hatchery, 156  
 Booth, Roy, 146, 237, 243  
 Botti, Tillie, 417  
 Bougainville (Solomon Islands), 206, 215, 219, 222, 235, 236  
*Bouteloua curtipendula* (side oats grama), 33  
 Bovett, Florence, 274  
 Bower, Don, 239  
 Boy Scouts, 307, 326, 336-337, 403-404



Breckinridge Mountain (California), 116  
 Brenneis, A.G. "Andy," 173, 250-251  
 Bridgeport, California, 342, 345, 395, 397, 401  
 Brigham Young University (Provo, Utah), 255, 256, 260  
 Brodhead, William, 427  
 Brodhead Park (Reno), 427  
*Brodiaea ida-maia* (firecracker plant), 58  
*Bromus hordeaceus* (soft chess), 57  
*Bromus tectorum* (cheat grass), 33-34, 42  
 Broten, G.A. "Art," 417  
 Brough, Elmo, 203-204, 213-214  
 Brown, Edmond G. "Pat," 398  
 Bruce Clogston Park (Reno), 136, 427  
 Brussard, Bill, 300  
 Buchanan, R.E., 15  
 Buckeye Canyon (California), 345  
 Buckhouse, Jack, 341-342  
 Buck's Lake (California), 45  
 Bureau of Land Management (BLM), 246, 261, 269, 307, 311, 318, 330-331, 379, 417-418  
 Button Willow (California), 162

## C

Cache National Forest (Utah), 368  
 Cambria, California, 168  
*The Campaign for Guadalcanal*, 201  
 Campgrounds, 43-45, 95-96, 244, 265-266, 271, 284, 339, 360, 372  
 Camptonville, California, 410  
 Canadian elevation, 174  
*Cannabis sativa* (marijuana), 4  
 Capitol building (Washington, D.C.), 189  
 Caribou National Forest (Utah-Idaho), 270, 357

Carmel, California, 168  
 Carney airfield (Guadalupe canal), 204, 212  
 Carson basin (Nevada), 143, 370  
 Carson City, Nevada, 278, 279, 318, 348, 363  
 Carson decree (water rights), 290-291  
 Carson Pass (Nevada), 396  
 Carson Valley (Nevada), 396  
 Cashill, Bill, 291  
 Cashman, Jim, 293  
 Catholic church, Sisters of the (Little Valley), 408  
 Cattle Association, Nevada, 274  
 Cattlemen's Association, Utah, 252, 268  
 Cave Rock (Lake Tahoe, Nevada), 321, 325  
*Ceanothus integrerrimus* (sweet birch), 49  
*Ceanothus velutinus* (snow brush), 89  
 Cedar Pass (California), 244  
 Cedarville, California, 179, 181, 243, 245-246, 247  
*Celtis douglasii* (western hackberry tree), 441  
 Central Intelligence Agency (CIA), 186  
 Central Pacific Railroad, 335  
*Cercocarpus ledifolius* (mountain mahogany), 459  
 Challenge, California, 55  
 Chamber of Commerce (Kingsburg, California), 106-107  
 Chamber of Commerce (Reno, Nevada), 277, 300, 307, 323, 403  
 Charleston Mountain (Nevada), 235, 324, 337, 359, 382, 383  
 Charnic basin (Nevada), 382  
 "China Clippers" (sea-planes), 238

Chinese, 54-55  
Christmas Tree restaurant  
(Washoe County, Nevada), 303  
Citizens Military Training Camp  
(Minnesota), 16-17  
Civilian Conservation Corps  
(CCC), 27, 45, 56-57, 62,  
63, 65, 67, 93-96, 101, 112,  
117, 277  
*City of San Francisco* (stream-  
liner), 286  
Civil Defense, 352  
Clark County, Nevada, 255, 383  
Clarke, S.T., 279  
Cleveland National Forest, 153,  
154  
Cliff, Ed, 139  
Clogston, Bruce, 421, 427  
Cloverdale, Nevada, 377  
Coleville, California, 409  
College of the Pacific, 343  
Colorado, 1  
Columbia river (Nevada), 293  
Colwell, Robert N. "Bob," 229-  
230, 233  
*Combat in the Pacific Theater*,  
201  
Condor (California, North  
American), 140-142, 250  
Conservation, 303, 316, 326,  
405. *See also* Watershed  
management; Wildlife manage-  
ment; Game management; Game  
ranges and refuges  
Conservation and Natural  
Resources, Nevada Department,  
326, 370, 399, 438  
Construction Battalion (CBs),  
211  
Convict Creek (California), 136  
Conway Summit (California), 398  
Coral Sea (South Pacific), 200,  
241  
Corps of Engineers, 138, 139,  
315  
*Corylus rostrata* (California  
hazel), 52  
Cottonwood Creek (California),  
159  
Crabtree Lake, Upper and Middle  
(California), 160

Crary, Erol, 300  
Creel, Cecil, 274  
Crenshaw, Elizabeth, 321  
Crenshaw, John S.T.E., 321  
Crescent Mills, California,  
37, 38  
Cronemiller, Fred "Croney",  
128-129, 131, 139, 144,  
170, 173, 184  
"Crooked Mile" (Reno), 429  
Crown Lake (California),  
346, 348  
Crown Point (California),  
346, 347  
Crystal Peak, Nevada, 413  
*Cupressus arizonica* (Ari-  
zona cypress), 116  
Curie, Madame, 261  
Cushing, Alex, 323-324  
Cusick, Art, 300

## D

Darling, F. Fraser, 329  
*Darlingtonia californica*  
(pitcher plant), 45-46  
Dartmouth College (Hanover,  
N.H.), 194  
Davis, Kenneth P., 389  
Davis County watershed  
research project (Utah),  
295  
Death Valley (California),  
168  
DeByle, Norbert, 390  
Deer, 131-132, 135, 139,  
144-146, 181, 254, 380  
Deer Creek reservoir (Utah),  
257  
Deering, R.L., 173  
Defenders of Wildlife, 408  
Defense Department, U.S.,  
289  
deLauer, Lee, 431, 437  
Del Norte County, Cali-  
fornia, 85-86  
deRicco, Elmo, 405, 431,  
438  
Desert Research Institute  
(DRI), 344



Desert Springs, California, 146  
 Des Moines river, 5  
 Desolation Valley (California), 150, 151, 153  
 Devil's Garden district (California), 76, 80, 94-95, 97, 131, 149, 231, 243, 458  
 Diablo, Mt. (California), 442  
 Diamond Mountain (California), 22  
 Diamond Valley (Nevada), 377  
 Dick Taylor Park (Reno, Nevada), 424  
 Dillon, Ken, 298  
 Dingle-Johnson Act, 151-152  
 Dixie Mountain Wildlife Refuge (California), 22  
 Dixie National Forest (Utah), 270  
 Dog Creek (Nevada), 319, 328  
 Dog Valley (California-Nevada), 272, 292, 296, 350, 353-354, 362  
 Doll, Gil, 272, 279, 336  
 Donner Lake (California), 358  
 Donner ridge (California), 41-42, 348-349  
 Donner Summit (California), 286, 348  
 Donner Trail, 358  
 Doolittle raid (James Harold "Jimmy"), 241  
 Double-A ranch (California), 73  
 Double Springs Flat, 396  
 Douglas County, Nevada, 365, 383, 408, 431, 437  
 Douthitt, Fred, 139, 159  
 Doyle, California, 21, 273  
 Dramolski, Mr., 381  
 Dressler, Fred, 274, 381  
 Drummond, Don, 288, 296, 314  
 Duchesne County (Utah), 264  
 Durban, South Africa, 457  
 Dutton, Walt, 165  
 Dyer, Lloyd, 414, 440  
 Dyson, H.J., 202

## E

Eagleville, California, 246  
 Ebbetts Pass highway, 397

Echeverria, Pete, 298  
 Eel river (California), 27-28, 29, 56  
 El Dorado National Forest (California), 132, 150, 299, 401  
 El Dorado Wood and Flume Company, 337-338  
 Elk, 162, 267-268, 329, 380  
 Elko, Nevada, 380  
 Elks lodge, 194-195, 227, 259  
 Elliott, Joe, 101, 102-105, 108-109, 110, 115, 120, 126, 127, 129, 130, 131, 169-171, 173, 176, 179, 180-182, 185, 186-187, 236-237  
 Ellis, Guerdon, 299  
 Ely, Nevada, 143, 253, 268, 269, 357  
 Empey, Gene, 323  
 Empress Augusta Bay (Bougainville, Solomon Islands), 215  
 Endangered Species Act, 456  
 English Channel, 196  
 English Lake (California), 163  
 Ensenada, Mexico, 154  
 Environmental Protection Policy and Act, 166, 320, 325, 394  
 Eureka, Nevada, 376  
 Eureka County, Nevada, 367, 375, 377, 378, 383  
 Everest, Mt., 372

## F

*Fading Trails* (Tanner), 255  
 Fairbanks, Alaska, 449, 455  
 Fairfield, Freeman, 408  
 Fallen Leaf Lake (California), 373  
 Fallon, Nevada, 384  
 Falls Meadow (Alpine County, California), 318  
 Farm Bureau, Nevada, 274

- Fay Canyon (Alpine County, California); 317  
Fausett, Del, 45, 133, 140  
Fauts, Jess, 21, 23  
Favre, Clarence, 268, 275, 368  
Favre, Edith McLeod, 368  
Feather Falls (California), 52-53, 441  
Feather river (California), 49, 50, 52-53, 441, 446  
Federal Bureau of Investigation (FBI), 170, 186  
Ferrari, Louis, 314  
Fiji Islands, 199, 453  
Fire (Stewart), 296, 410-411  
Firefighting, 37-42, 204, 206, 253, 271, 278, 317-318, 349-351, 352-353, 363-364, 410-411, 451. *See also* Forest fires  
Fire Review, Board of, 178, 317  
First National Bank of Nevada, 301, 332  
Fischer, Virilis L., 329-331, 357, 418  
Fish, 136-137, 139, 150-156, 159, 209  
Fisheries, Marine (Fish and Game Dept., California), 133  
Fisheries, U.S. Bureau, 119, 293  
Fish and Game, California Department, 81, 82, 119, 133, 135, 137, 140, 144, 152, 173, 179  
Fish and Game, Idaho Department, 443  
Fish and Game, Nevada Department, 144, 386  
Fish and Game Commission, Oregon, 293  
Fish Lake National Forest (Utah), 270, 271  
Fish and Wildlife Service (California), 136, 137  
Fleischmann, Max C., 250-251, 282-283, 293, 331, 406  
Fleischmann Foundation, 294, 326, 331, 332, 333, 340, 385-386, 389, 396  
Fleish, Nevada, 296  
Flood control, 315-316, 319, 327-328, 364-365  
"Flora of Nevada as a Component of the Environment for Wildland Recreation" (Sack), 406  
*Flora of Utah and Nevada* (Tidestrom), 34  
Flournoy, John, 192  
Flournoy, Warren, 192  
Flournoy family (Likely and Jess Valley, California), 192, 448  
Foothill Road (Washoe County, Nevada) 304  
Ford Island (Hawaii), 194  
Ford, Model T, 10, 20, 21  
Foreman, William, 298  
*Forest Conditions in the North Sierra-Nevada of California*, 90  
*Forest Fire Control and Use* (Davis), 389  
Forest fires, 22-23, 30-31, 37-42, 51, 53-54, 83, 87-92, 96-97, 99-100, 110-116, 124-127, 156-158, 175-177, 244, 252, 253, 255-256, 272, 278-279, 294-295, 296-297, 306, 316, 317-318, 337, 348-351, 352-353, 359-360, 363-364, 373-374, 459  
*Forest and Flame in the Bible*, 412  
Forest public relations, 306, 317, 350, 351-353, 394-398  
Forest and Range Experiment Station, California, 77  
Forest rangers, 2, 37, 79, 80, 105, 123-124, 266-267, 270, 285, 379, 383-384, 392-393. *See also* Forest Service, U.S.  
Forestry, California Division, 65-66, 119, 125-126, 287  
Forestry, Nevada Division, 287-288, 314-315  
Forestry Congress, World, 355



- Forestry school (University of California, Berkeley), 230, 390
- Forests, national, creation of, 257, 258, 308-310
- Forests, national, land acquisition, 279-280, 335, 365
- Forest Service, U.S., 19, 21-25, 27-32, 35-36, 37, 40, 46, 57, 65-66, 71, 72, 78, 79-80, 90, 99, 106, 108, 119, 121, 127, 128, 130, 131, 134, 139, 164-167, 179, 234, 242, 256-257, 259, 261, 267, 269, 275, 287-288, 290, 292, 296, 300-301, 304, 305, 310, 318, 356, 357, 370, 385, 393, 418, 422. *See also* Various National Forests
- Forest Service manuals, 164-167, 173-175, 184-185
- Forest Service National Advisory Board, 418-419
- "Formula for Mediocrity," *American Forest* (Fischer), 330
- Fort Bidwell, California, 247-248
- Ft. Carson, Colorado, 278
- Fort Meyer, Virginia, 237
- Fremont, John C., 144, 433
- Fremont trail, 396
- Frenchman Creek (California), 42
- Fuetsch, Carl, 303
- Fuji, Mt. (Japan), 334
- Fuller Lake (California), 297, 404
- Fulstone family (Smith Valley), 381
- Furnace Creek (Death Valley), 343
- Gardnerville, Nevada, 348
- Gemmill, Paul, 418
- Genoa, Nevada, 317
- Genoa Peak (Nevada), 362
- Getchell, Noble, 284-285
- Gianella, Vince, 396
- Girl Scout camp (Provo Canyon, Utah), 259
- Girl Scouts, 307, 325-326
- Gladding, Ben, 135
- Godden, Floyd, 270, 271, 300
- Goodwin, Vic, 279, 296-297, 306, 351, 370
- Goose Lake (California), 248
- Goose Nest area (California), 157
- Grantsville, Nevada, 371
- Gray, W. Howard, 309
- Grazing permits. *See* Livestock
- Grazing Service (Dept. of Interior), 171
- Great Basin National Park (Nevada), 328, 330, 356, 381, 412
- Great Basin Naturalist* (Tanner), 255
- Green Creek (California), 346
- Green Lake (California), 346
- Grovers Hot Springs (California), 396
- Groves, Frank, 386-387
- Guadalcanal (Solomon Islands), 196, 200, 201, 204, 208, 209, 214, 215, 218, 229, 236
- Guadalcanal Diary*, 201
- Guam (Mariana Islands), 218, 219
- Guth brothers, 440

## G

- Galena Creek (Nevada), 318-319
- Game ranges and refuges, 133-134, 138, 139-140, 145, 161-163, 305, 308-310, 313-314. *See also* Birds, Deer, Elk, Fish, Mule deer, Sheep, Beaver

## H

- Hadley, Roy, 113-114
- Hague, Lloyd, 279
- Haines, Alaska, 450, 452
- Halsey, William F., 199-200
- Hancock Foundation, Luke B., 333

- Hanna, Richard, 432  
Hansen, Slim, 324, 381  
Harolds Club (Reno, Nevada), 288  
Harrah, William F., 305, 331-332, 378, 404, 414, 442, 444, 446  
Harrah's Club (Reno, Nevada), 289, 301, 402, 403  
Harris, Audrey, 415, 416, 417  
Harvard College (Cambridge, Mass.), 194  
Hatch Act, 153  
Hawthorne, Nevada, 360  
Hawthorne Naval Ammunition Depot (Hawthorne, Nv), 321, 360-361  
Hayden, Irene Heath, 371, 381-382  
Hayden Lake (Idaho), 11, 12  
Hay Fork, California, 112  
Hayman, Dick, 297-298  
Healdsburg, California, 148  
Heath ranch (Nye-Lander counties, Nevada), 371  
Heber, Utah, 257  
Hell's Point ammunition dump (Guadalcanal), 206  
Henderson airstrip (Guadalcanal), 201  
Herz, Walter, 417  
High Rock (Nevada), 245  
Highway, Al-Can (Alaska), 449  
Highway, Mt. Rose (Number 27), 278, 303, 304, 318-319, 322, 324, 337, 339  
Highway, Redwood (California State One), 148, 168  
Highway, Reno Bowl. *See* Slide Mountain  
Highway 8-A (Nevada), 300  
Highway 80 (Interstate), 402  
Highway 88 (California), 397  
Highway 89 (California), 397  
Highway 50 (Nevada-California), 283, 322, 402  
Highway 395 (Nevada-California), 292, 395, 397  
Highway 28 (Nevada), 282  
Hillary, Edmund "Ed", 372-373  
Hiroshima, Japan, 239  
Hobart estate (Nevada-California), 86-87, 338  
Hobart Mills, California, 354  
Holcomb, Billy, 300  
Homestead Act (1862), 335, 377, 442  
*Honolulu Advertiser*, 195  
Hoover, J. Edgar, 170  
Hoover Wilderness area (Toiyabe National Forest, California), 336, 345, 347, 398  
Hopkins, Howard, 276  
*Hornet*, U.S.S., 241  
Horses (wild), 375-376  
Horticulture Society, Nevada, 415-416  
Hot Creek (California), 136, 137  
Hough, Mt., 39  
Hudsonian elevation, 174  
Humane Society, 408  
Humboldt County, California, 84, 421  
Humboldt National Forest (Nevada), 276, 307, 324, 336, 380-381, 411  
Humboldt river (Nevada), 147, 369, 370  
Hunter Lake (Nevada), 304  
Hurricane (1938), 127  
Hutchinson, (Dr.), 314  
*Hypericum perforatum* (Klamath weed, St. Johns wort), 93-94
- I
- Ichthyosaur State Park (Nevada), 371-372  
Ickes, Harold R., 87, 130  
Idaho, 11-12, 17-19, 414, 442-445  
Idaho Primitive Area, 415, 442-443, 444  
Idaho Statehood Act (1890), 443  
Idlewild Park (Reno, Nevada), 423, 429



Iguazu Falls (South America),  
 455, 456  
 Illinois, 1  
 Incline, Nevada, 339, 343  
 Indian Creek (California), 37-  
 39  
 Indians, 68-69, 180, 245, 248,  
 361-362, 367, 435, 441-442  
 Indian Valley (Nevada), 382  
 Insect control, 340  
 Interior Department, U.S. 108,  
 130, 310, 334, 379  
 Intermill, "Swede," 15-16, 18-  
 19, 207, 223  
 International Date Line, 199  
*Interpretation of Natural  
 History* (Tilden), 413  
 Interpretation Squadron No.  
 One, 201-202. *See also*  
 Photo interpretation;  
 Aerial photography  
 Inyo National Forest (Califor-  
 nia), 136, 145, 160, 161,  
 237, 243, 280, 348, 379  
 Ione Valley (Nevada), 371  
 Iowa, 191, 227  
 Iowa State College (Univer-  
 sity), 2, 11-16, 25, 48-  
 49, 207, 288  
 Ivan Sack Park (Reno), 424,  
 426, 427  
 Iverson, Floyd, 27-30, 59,  
 65, 66, 75, 76-77, 86,  
 92-93, 122, 178, 204, 243,  
 320, 391

## J

"Jake," 18-19  
 James, George, 176, 182  
 Japanese, the "Japs," 197,  
 202, 204, 206, 215, 218,  
 233, 239  
 Jarbidge mountains, 381  
 Jardine, W.T., 256  
 Jensen, Everett, 162-164, 319  
 Jepson, Willis Linn, 33, 34,  
 150, 441  
 Jess Valley (California), 192  
 John Day River (California),  
 139

Johnson, Harold T. "Bizz,"  
 398  
 Jones, Billy, 262-263, 264-  
 265  
 Jordan, David Starr, 249  
 Joshua Tree National Monu-  
 ment (California), 116  
*Juglans hindsii* (black wal-  
 nut tree), 441  
 Justice Department, U.S.,  
 291, 338-339, 420

## K

Kennedy, Robert, 420  
 Kern Canyon (California),  
 115-116  
 Kern County, California,  
 125, 126  
 Kern Peak (California), 159  
 Kern river (California),  
 159  
 Ketchikan, Alaska, 451-452  
 King, (Admiral), 220  
 Kingsburg, California, 106-  
 107  
 Kings Canyon National Park  
 (California), 104, 105-  
 107, 109-110, 114, 130  
 Kings river (California),  
 108  
 Kingston Canyon (Nevada),  
 300, 311, 367, 369, 372,  
 373, 382  
 Kingston Creek (Nevada), 373  
 Klamath Falls, Oregon, 177-  
 178, 192  
 Klamath National Forest  
 (California), 162  
 Klamath river (California-  
 Oregon), 162  
 Knisely, Ray, 435  
 Kodak Hawaii (photographic  
 lab), 194  
*Kogon* (tall grass, Guadal-  
 canal), 204  
 Koli Point (Guadalcanal),  
 204  
 Kyle Canyon (Nevada), 324

## L

- Lake City, California, 247  
Lake Tahoe Area Council, 331-334, 398, 424-425, 436  
Lander County, Nevada, 371, 375, 378, 383  
Lanham, Rex, 440, 446-447  
*Larrea tridentata* (creosote bush), 33  
Lassen County, California, 145, 147, 175, 311, 383, 448  
Lassen, Mt. (California), 31-32, 326  
Lassen National Forest (California), 86, 100, 173  
Las Vegas, Nevada, 330, 336, 337, 342, 343  
Latimore, Joe, 421, 422, 430-431  
Lava Beds National Monument (California), 176  
Lawlor, Jake, 238  
Laxalt, Paul, 321, 430, 431, 432, 433, 435  
Laxalt, Robert "Bob," 343  
Laxague, John, 245  
Laxague, Pete, 245  
LDS Hospital (Salt Lake City, Utah), 253  
Leahy, (Admiral), 189  
Leavitt, Clyde, 308  
Leavitt Meadow (California), 344  
Lee Canyon (Nevada), 324  
"Lefty," 53-54  
Lehman Caves National Monument (Nevada), 411  
Lenz, Elizabeth, 448  
Lenz, Gilbert "Gil," 448  
Leonard, Paul, 306  
Leviathan Creek (Nevada), 291  
Leviathan mine (Nevada), 292  
Liberty ships, 211  
*Libodrocedrus decurrens* (incense cedar), 454  
Life magazine, 317  
Likely, California, 192, 448  
Lincoln County, Nevada, 366  
Lindbergh, Charles A., 16  
Lindeman, Duke, 417  
Little Antelope Valley (California), 409  
Little Valley (Nevada), 280, 344, 387-388, 406, 408, 420  
Livestock grazing, 78-79, 84, 102, 118-119, 132-133, 166, 169, 170-172, 178, 245, 252, 253-254, 256-257, 258, 261-262, 263-265, 308-310, 311, 376, 381-382, 383. *See also* Range management; Wildlife management  
Logging, 93, 107-108, 127, 206-207, 223, 299, 335-336, 354-355, 393-394, 421-422  
Long Beach, California, 25  
Los Angeles, California, 227  
Los Padres National Forest (California), 59-61, 135, 137, 142, 153, 168, 248, 250. *See also* Santa Barbara, California  
Lowe, Barney, 331  
Lumber. *See* Logging  
Lyon County, Nevada, 383
- Mc
- McCardle, Richard, 355  
McCarran, Patrick A., 87, 108, 269, 284  
McClellan lookout (Nevada Division of Forestry), 288  
McCloud river (California), 156  
McDonald, Bob, 323  
McDonald, Joe, 284, 290, 295, 323, 331, 340  
McKenzie, Walt, 317, 431, 438  
McLeod, Charlie, 368



McLeod, Clarence, 368-369  
 McLeod, Duncan A., 338  
 McLeod, Harriet, 368  
 McLeod, May, 368  
 McLeod family (Smoky Valley, Nevada), 368  
 McQueen, Andrew, 143

## M

MacArthur, Douglas, 211  
 Mackay School of Mines (University of Nevada), 348  
 Mad river (California), 27, 29, 70, 72, 73, 78-79  
 Malaita Island (South Pacific), 209, 210  
 Malaria, 208, 213, 214  
 Malheur National Forest (Oregon), 139  
 Malimbiu river (Guadalcanal), 204, 207, 220  
 Mall, William, 358  
 Malone, George W., 300, 307  
 Mammoth Lakes (California), 348  
 Manhattan, Nevada, 376  
*Manual of the Flowering Plants of California* (Jepson), 33, 150  
*Manual of the Trees of North America* (Sargent), 26  
 Mapes Hotel (Reno, Nevada), 301  
 Marble Cone (California), 53-54  
 Marble Mountain Primitive Area (California), 162  
 Marble Mountains (California), 163, 164  
 Mariana Islands (Micronesia), 218  
 Marines, U.S., 225, 226, 280, 294, 295  
 Marines, U.S., First and Third Divisions, 214  
 Markleeville, California, 143, 358, 359, 363, 386, 396, 397, 400  
 Marks, Harry, 331  
 Marshall, Bob, 114-115, 116  
 Marshall, George C., 206, 236-237, 238  
 Martin family (Antelope Valley), 367  
 Martis Creek, 365  
 Masons, 74  
 Mason Valley (Nevada), 145  
 Matterhorn Creek (California), 346  
 Maule, William M., 143, 396  
 Maw, Ed, 328, 357, 400  
 Meder, John, 431, 437-438  
 Meeks Creek (California), 325  
 Melbourne, Australia, 454  
 Meling ranch (Mexico), 154, 155  
*Mentzelia laevicaulis* (blazing star), 50  
 Merriam, C. Hart, life zone classification, 174, 399, 401  
 Metcalfe, Harriet, 312-313, 400  
 Metzger, J.K. "Ken," 299  
 Middle Fork (Salmon River, Idaho), 378, 404, 414, 440, 441, 443, 444, 445  
 Middle Fork Lodge (Idaho), 378, 440, 442, 443-444, 445, 446  
 Migratory Bird Act and Treaty, 167  
 Milford, California, 22-23, 273  
 Mill Creek campground (California), 284  
 Miller, Orson F., 417  
 Miller, Richard, 355  
 Miller, Tom, 415, 416  
 Millett family (Smoky Valley), 369  
 Minden, Nevada, 143, 348, 363, 409  
 Mineral County, Nevada, 360, 383, 393  
 Mineral King resort (California), 117  
 Mines, U.S. Bureau, 292  
 Mississippi river, 1  
 Moana Hotel (Waikiki Beach, Hawaii), 240



- Modoc County, California, 145,  
 147, 179, 186, 245, 448  
 Modoc National Forest (California), 75-76, 79, 94, 100,  
 102, 169-173, 175-176, 179,  
 180, 185, 197, 198, 204, 237,  
 243, 286, 384, 458, 459, 460.  
*See also* Alturas, California  
 Modoc Union High School (California), 180  
 Mombasa (Africa), 457  
 Monday, Camille, 405  
 Monitor mountain range (Nevada),  
 307, 366, 382, 383  
 Monitor Pass highway, 397  
 Monitor Valley (Nevada), 300,  
 366  
 Mono basin (California), 143  
 Mono County, California, 383,  
 392, 395, 396-398  
 Mono National Forest (California), 137, 143-144, 227, 251  
 Moran, Lew, 239  
 Mormons (Church of Jesus Christ  
 of Latter Day Saints), 252,  
 258, 259-260, 268, 366-367  
 Morris Meadow (California), 74  
 Morro Bay, California, 250  
 Mt. Ralston Sportsmen's Club  
 (Sacramento), 151-152, 153  
 Mowrey, Claude, 407  
 Mule deer, 131, 138, 161, 256  
 Mulhagen, Mae, 282  
 Multiple Use Act (1960), 110,  
 320, 417, 444  
 Multiple use management, 164,  
 280, 319-320, 330-331, 332,  
 380, 417  
 Munda (Solomon Islands), 214-  
 215, 216  
 Munson, Chuck, 440  
 Murderer's Creek (Oregon), 139  
 Museum of Vertebrate Zoology  
 (University of California,  
 Berkeley), 156
- N
- National Geographic* magazine,  
 372  
 Natural Resource Advisory  
 Council, 386-387  
 Naval Air Station (Anacosta,  
 D.C.), 188, 227  
 Naval Reserve, U.S., 183,  
 281, 390, 439  
 Navy, U.S., 179, 183-185,  
 187, 190, 294, 422  
 Nebo mountains (Utah), 267  
 Needham, Paul R., 136, 153-  
 156, 293-294, 298  
 Nelson, DeWitt "Swede," 91  
 Nelson Point (California),  
 446  
 Nevada Bank (Reno, Nevada),  
 292  
 Nevada Beach (Lake Tahoe,  
 Nevada), 283-284, 373  
 Nevada City, California, 410  
 Nevada Club (Reno, Nevada),  
 301  
 Nevada County, California,  
 383  
 Nevada-Lake Tahoe Regional  
 Planning Agency. *See*  
 Tahoe Regional Planning  
 Agency  
 Nevada National Forest (Nevada), 143, 268, 324,  
 336  
*Nevada State Journal* (Reno),  
 306, 432  
 New Caledonia (South Pacific),  
 199, 200  
 New England states, 452,  
 453  
 Newman, Vern, 362  
 New York, N.Y., 190, 228,  
 230  
 New Zealand, 199, 220, 373,  
 453  
 Nielsen, Reed, 137  
 Nimitz, Chester W., 195, 211,  
 Nixon, Richard, 449  
 Norfolk, Virginia, 227  
 Norton, H.E. "Hank," 40, 299,  
 355, 390  
 Noumea, New Caledonia (Loyalty  
 Islands), 199  
 Nova Scotia, 453  
 Nye County, Nevada, 269  
 371, 375, 378, 383

## O

O'Callaghan, Mike, 433  
 Ogden, Utah, 144, 268, 269,  
 281, 289, 312, 319, 401  
 Okinawa (Ryukyu Islands, Ja-  
 pan), 233  
 Olsen, C.J. "Chet," 143, 268,  
 276, 284-285, 295, 312,  
 319, 320  
 Olson, Carl, 13, 14  
 Olympic Winter Games (1960),  
 322, 323, 324, 339  
 Ophir Creek (Nevada), 278  
 Organic Act (1897), 257, 335,  
 420  
 Ormsby County, Nevada, 343,  
 383, 431, 437-438  
 Oroville, California, 299  
 Oroville, Lake (California),  
 446  
 O'Toole families (Reese River  
 Valley, Nevada), 371  
 Outfitters and Guides, Idaho,  
 442, 444,  
*Ovis canadensis*, variety  
*sierrae* (Rocky Mountain big  
 horn sheep), 161  
 Owens Valley (California), 162

## P

Paiute Meadow (California),  
 344  
 Palisade-Eureka Railroad, 370  
 Pammell, Louis H., 15-16  
 Panamint mountain range (Calif-  
 ornia), 168  
 Paradise mountain range (Ne-  
 vada), 383  
 Parana river (South America),  
 455  
 Park Commission, Nevada, 408  
 Park and Horticulture Commis-  
 sion, Reno, 415, 417  
 Park and Recreation Commission,  
 Reno, 416-417, 424, 426  
 Park Service, U.S., 32, 79,  
 105-107, 162, 357, 413, 445  
 Park superintendent, Reno,  
 421, 423-430, 439  
 Payette National Forest  
 (Idaho), 270  
 Pealer Lake (California),  
 347-348  
 Pearl Harbor (Hawaii), 182,  
 188, 192, 193, 195, 200,  
 238  
 Peavine mountain lookout  
 (Nevada), 288  
 Perth, Australia, 453, 454  
 Peterson, Bill, 157, 299  
 Pfeiffer State Park (Calif-  
 ornia), 67  
 Phillips, Bob, 230  
 Photo interpretation and  
 intelligence, 188, 193,  
 195, 202, 203, 213, 216,  
 217, 218, 219, 228, 230,  
 232-234, 236, 238-240,  
 374, 389-390, 439. See  
 also Aerial photography  
*Picea breweriana* (weeping  
 spruce), 163  
 Pickel Meadows (California),  
 280, 295  
*Picture History of World  
 War II*, 204  
 Pi Kappa Phi fraternity, 13  
 Pilot Creek (California),  
 70  
 Pine mountain range, 399  
*Pinus monophylla* (juniper-  
 pinyon pine), 147  
*Pinus monticola* (western  
 white pine), 346  
 Pipeline, Alaskan, 449-450,  
 452  
 Pismo Beach (California),  
 168  
 Pistol Creek (Idaho), 446-  
 447  
 Pitchlyn, Peter Paul "Pitch,"  
 121-124, 126, 129, 214  
 Pit river (California), 136  
 Pittman, Vail, 293  
 Pittman-Robertson Act, 151,  
 443  
 Placerville, California, 151  
 Plant Industry, Bureau of,  
 148



Plath, Neil, 403  
 Pleasant Valley (California), 363  
 Plumas County, California, 383  
 Plumas National Forest (California), 21-24, 30, 35, 37-41, 42-55, 78, 93, 102, 157, 273, 299. *See also* Quincy, California  
 Point Arena, California, 85  
*Poisonous Plants of North America* (Pammell), 15  
 Pole Creek (Elko County, Nevada), 292  
 Porterville, California, 104, 109, 195  
 Portland, Oregon, 286, 330  
 Potts ranch (Monitor Valley, Nevada), 366  
 Powell Mountain, 361  
 Powers, Butch, 246  
 Princeton College (Princeton, N.J.), 194  
 Prospectors Club (Reno, Nevada), 281  
 Prosser reservoir, 140, 364  
 Provience, Art, 400  
 Provo, Utah, 251, 252, 253, 254, 255, 256, 258-259, 268  
 Provo Canyon (Utah), 257, 258-259  
 Public Roads, U.S. Bureau, 292  
*Purshia tridentata* (bitterbrush), 49, 58, 278-279

## Q

*Quercus garryana* (Garry oak), 66  
*Quercus kelloggii* (Kellogg oak), 34  
*Quercus sadleriana* (Sadler oak), 163  
*Quercus tomentella* (Island oak), 163  
 Quilici, Hugo, 416, 424  
 Quincy, California, 24, 26, 27, 30, 35, 36, 45, 157, 178, 213, 266

## R

Rahm, Neil, 135  
 Rainbow Division (U.S. Army), 3  
 Rancho San Jose. *See* Meling ranch  
 Range management, 128, 164-167, 169-170, 171-172, 178, 253-254, 256, 257-258, 261-262, 263-265, 269-271, 273, 280, 308-310, 311, 380, 382-383, 387, 408-409. *See also* Wildlife management  
 "Range Management on National Forests" (U.S. Dept. of Agriculture bulletin 790), 256  
 Ray Smith Associates, 431  
 Reclamation Association, national meeting (Long Beach, California), 300  
*Record Courier* (Gardnerville, Nevada), 290  
 Recreation Commission, Reno. *See* Park and Recreation Commission  
*Recreation in Nevada*, 401-402  
 Red Cross, American, 218, 307  
 Redd, Charlie, 253-254  
*Red Deer* (Darling), 329  
 Redding, California, 138, 317  
 Redfield, LaVere, 277, 292, 302, 304-305  
 Red River Lumber Company (Westwood, California), 39, 40-41  
 Reese, John, 369  
 Reese river (Nevada), 369, 371, 382, 384  
 Reese River Valley (Nevada), 308, 367, 369-370, 371, 382  
 Regents, University of Nevada, 388, 402  
 Reifschneider, Olga, 325-326

- Renewable Resource program (UNR), 230, 388-390, 402, 405-406, 407, 410-411, 412-414
- Reno, Nevada, 21, 136, 143, 191, 227, 273, 276, 277-278, 281, 288, 293, 299, 301, 315, 316, 323, 403, 415, 454, 458
- Reno Evening Gazette*, 273
- Reno High School (Reno, Nevada), 316
- Reno Ski Bowl. *See* Slide Mountain
- Reno Women's Civic Club, 303
- Report on Wildlife Within the National Forests of California* (1940, Sack), 140
- Republican National Convention (1940), 164
- Rice, Ben, 255, 268
- Rippey, Iowa, 1
- River of No Return Wilderness Council, 444
- Riverside Drive (Reno), 425, 427, 429
- Riverside Hotel (Reno, Nevada), 301
- Robertson, Joseph, 383, 457
- Robinson Creek (California), 346
- Robison, Mel, 366
- Robison, Norman, 366
- Rocky Mountain big horn sheep. *See* Sheep
- Rocky Mountain mule deer. *See* Mule deer
- Roosevelt, Eleanor, 226
- Roosevelt, Franklin D., 87, 108, 183
- Roosevelt, Theodore, 1, 8, 257
- Rose, Mt., 337, 339
- Rotary Club (Cedarville, California), 247
- Rotary Club (Provo, Utah), 259
- Rotary Club (Reno, Nevada), 281, 299, 358
- Rotterdam, S.S., 457
- Round Mountain (Nevada), 341, 376
- Rural Area Development, 360
- Russell, Charlie, 281, 284, 300, 310, 311, 314, 321, 322, 325, 344, 386, 407
- Russell Islands (South Pacific), 224
- Russian river (California), 138, 139, 148
- Russians, 23
- S
- Saarni, Roy, 145, 236
- Sac City, Iowa, 6-7, 9, 10, 26-27
- Sack, Bert, 1, 2, 4, 6, 7-8, 9, 12, 13, 74, 448-449
- Sack, Florence Fleetwood, 1, 2, 3, 4, 6, 13, 448-449
- Sack, Gary Norris, 294, 453
- Sack, Lucille, 3
- Sacramento Valley (California), 132
- Sagehen Creek (California), 293
- St. Francis Hotel (San Francisco, California), 172
- Saipan (Mariana Islands), 218
- Sala, John, 417
- Salmo nelsoni* (Nelson trout), 154
- Salmon river (Oregon-Idaho), 163, 404, 414, 440, 441
- Salt Lake City, Utah, 253, 256-257, 295
- Samoa (South Pacific), 197, 199
- San Bernardino, California, 124, 125, 126
- San Bernardino National Forest (California), 135, 239, 312-313
- Sand Harbor (Nevada), 363, 408
- San Diego, California, 156, 225, 226
- Sanford, John, 290
- San Francisco, California, 144, 148, 156, 169, 172, 177, 183, 187, 191, 192, 227, 242



- San Joaquin Valley (California), 141  
San Joaquin Valley Experimental Range (California), 135  
Santa Barbara, California, 66-67, 138, 173, 247, 248, 250, 251, 282  
*Santa Mercedes* (Prudential liner-freighter), 455  
Santa Ynez Canyon, 173  
San Telmo, Mexico, 154  
Santiquine Canyon (Wasatch Mountains, Utah), 265  
Sawtooth Mountains (Idaho), 445  
Sawtooth National Park (Idaho), 444  
Sawtooth National Recreation Act (1972), 445  
Sawyer, Grant, 350, 386, 387, 388, 408  
Schapals, Herman, 341-342  
Scheid, Vernon E., 348  
Schmidtlein, Don, 368  
Schmidtlein family (Smoky Valley, Nevada), 367  
Schurz, Nevada, 361  
Scofield, Jessie, 258  
Scorp, Al, 252  
Scott's Lake (California), 349  
Scotty's Castle (Death Valley), 342, 343  
Sea otter, 168  
Sears and Roebuck, 405  
Seattle, Washington, 355, 449  
Security National Bank (Reno), 448  
Segura family (Antelope Valley), 367  
*Sequoiadendron gigantea* (redwood), 62, 116  
Sequoia National Forest (California), 101-103, 104, 105-107, 114, 115, 116-119, 120, 159, 160, 169, 204. *See also* Porterville, California  
*Sequoia sempervirens*, 454  
Sespe Creek (California) 141, 142  
Settelmeyer, Ed A., 47  
Settelmeyer family (Carson Valley), 381  
Shamberger, Hugh, 272-273, 300, 326, 418-419  
Shantz, H.L. "Doc," 146-150, 165, 234, 235  
Shasta, Mt. (city), California, 158  
Shasta National Forest (California), 136, 156, 157  
Shasta reservoir (California), 136  
Shea Creek (Nevada), 396  
Sheep, mountain (Rocky Mountain big horn, Nelson), 161, 162, 254, 369  
Sheppard, Maurice, 440  
Sheppard, (Mr.), 315  
Ships, 193, 194, 196-199, 211, 225, 241, 453, 455-457  
Shoshone mountain range (Nevada), 307, 378, 383, 404  
Shoup, Gene, 284  
Show, S.B., 131, 135, 173, 175, 185, 214  
Sierra Chemical plant (Verdi, Nevada), 352  
Sierra Club, 108, 116, 321, 329, 330, 345, 347, 355-356, 444  
Sierra County, California, 383  
Sierra Nevada mountain range, 119-120, 137, 235, 237, 275, 345, 403  
Sierra Pacific Power Company, 296, 297-298, 299, 315, 332, 349, 425, 438  
Sierra Valley (California), 36-37, 147, 446  
Silver Creek (Alpine County, California), 255, 397  
Singapore (Malaysia), 457  
Skagway, Alaska, 450, 452  
Skau, C.M., 402, 413  
Sky Tavern (Nevada), 302  
Slide Mountain (Nevada), 277, 301-303, 322, 323-324, 325, 339



- Slinkard Valley ranch (Mono County, California), 408-409  
 Smith, Alfred Merritt "Tom," 247, 248  
 Smith, Ed, 132, 150, 401  
 Smith, Lloyd, 191  
 Smith, Lyle, 317, 358, 400-401  
 Smith, Moroni, 262  
 Smith, Osgood, 154-156  
 Smith, Raymond I. "Pappy," 289, 301-302  
 Smith, Tom, 292  
 Smith family (Harolds Club, Reno, Nevada), 288, 289  
 Smith Valley (Nevada), 145  
 Smoky Valley (Nevada), 308, 342, 367, 368-369  
 Snipe hunt, 18-19  
 Snow Lake (California), 346, 347, 348  
 Snyder, Hobart, 91  
 Soil Conservation Service, 370  
 Soldier Summit, Utah, 265  
 Solomon Islands (South Pacific) 211, 218, 220, 222, 226, 228  
 Sonoran, Lower and Upper elevations, 174, 380, 401  
 Sonora Pass (California), 280, 344  
 South America, 455-456  
 Southern Pacific railroad, 87-88, 172, 286  
 South Lake Tahoe, California, 132  
 Southworth, Mrs. George, 417  
 Spinney, Wes, 178, 213-214, 299  
 Spooners Summit (Nevada), 322  
 Squaw Creek (California), 136, 153  
 Squaw Valley (California), 323-324, 339  
 Stampede reservoir (California), 140, 365  
 Stanford University, 136, 143, 150, 153, 175, 249  
 Stanley, Idaho, 414, 442, 445  
 Star palm (sego palm), 223  
 Statham, Paul, 182  
 Stayros, Pete, 440  
 Stead Air Base (Reno, Nevada), 277, 278, 280, 304, 318, 374  
 Steen, Charlie, 260  
 Stevens, Dave, 377  
 Stevenson, Red, 154  
 Stewart, George, 296, 410-411  
 Stockmen's Act (1952), 310-311  
 Stodieck, Wilbur, 279  
 Storck, George, 170-173  
 Storm Lake, Iowa, 6  
*Story of Mankind* (Van Loon), 147  
 Strait of Magellan, 455, 457  
 Strategic Air Command, 277  
 Streshley, Joe, 367  
 Summerfield, Lester, 283, 385  
 Summerfield, Nan, 283  
 Summit Lake (California), 347  
 Surprise Valley (California), 246-247, 248  
 Sutton, (Dr.), 390  
 Sutter Buttes (California), 63-64  
 Suva (Fiji Islands), 199  
 Suverkrup, Art, 290  
 Swanson, Charles, 288  
 Sweetwater, Nevada, 383  
 Swift, Lloyd, 21, 45, 54-55  
 Sydney, Australia, 453, 454
- T
- Tahoe, Lake, 23, 64, 108, 151, 152, 283, 301, 305, 316, 330, 331, 373, 403, 414, 424-425, 433, 434, 435-436  
 Tahoe Basin, 333-334, 335-336, 354, 421  
 Tahoe National Forest (California), 86-92, 140, 203, 292, 293, 299, 304, 306, 348-349, 354

- Tahoe Regional Planning Agency,  
325, 333, 430-434, 435-438.  
*See also* Lake Tahoe Area  
Council
- Tahoe Timber Company (Reno,  
Nevada), 299
- Taiwan (Formosa), 231
- Tanner, Vasco, 255, 256, 257,  
259
- Tanyton, Shag, 384
- Tasman Sea (South Pacific),  
199
- Taylor Act, 269
- Teapot Dome scandal, 170
- Thomas Creek (Idaho), 444
- Tierney Creek (Nevada), 371
- Tilden, Mr., 413
- Timber. *See* Logging
- Timber and Stone Act, 335
- Timpanogos mountain (Utah),  
260
- Tinian Island (Mariana Islands),  
218
- Toiyabe mountain range (Nevada),  
307, 308, 309, 367, 371, 373,  
383
- Toiyabe National Forest (Calif-  
ornia-Nevada), 143-144, 227,  
251, 268, 272, 275-277, 280,  
281, 283-284, 285, 290, 292,  
299, 304, 307-310, 312, 317,  
319, 324, 328, 336, 343, 346,  
347, 348-349, 358-359, 365,  
375, 379-384, 393, 396, 397,  
400, 401, 406-407, 429
- Toiyabe National Forest Advisory  
Board, 381
- Tokyo, Japan, 240
- Tokyo Rose, 221-222
- Tonopah, Nevada, 314, 341, 342,  
378, 379, 384
- Tony Grove (Utah), 266, 267
- Topaz Lake (Nevada), 408
- Toquima mountain range (Nevada),  
307, 383
- Torgeson, (Supervisor) "Torge,"  
293, 381
- Transportation Act, National,  
322
- Traugh, D.M. "Kelly," 43, 143,  
173, 178, 182, 214, 242
- Treasure Island, California,  
192
- Treasure Island (Solomon  
Islands), 215, 216
- Trees, 5, 34, 49, 62, 66,  
90, 116, 147, 163, 222,  
223, 307, 308, 346, 354-  
355, 376, 399, 428, 450,  
454, 459-460. *See also*  
Various botanical design-  
ations
- Trinity Alps (California),  
73-74
- Trinity National Forest  
(California), 27, 30,  
56-59, 61-63, 65, 66,  
67-72, 75, 78, 93, 102,  
111, 157
- Trinity river (California),  
111
- Trout Stream (Needham), 153
- Truckee, California, 293,  
295, 349
- Truckee-Carson Irrigation  
District, 315
- Truckee river (California-  
Nevada), 147, 273, 274,  
301, 315, 319, 327-328,  
352, 365, 370, 390
- Truk Island (Caroline Is-  
lands), 217, 219
- Tsuga mertensiana* (mountain  
hemlock), 346
- Tueller, Paul, 230
- Tulare river (California),  
119
- Tule Lake (California), 175,  
197, 213
- Tundra, 235-236
- Tunnel district (California),  
159
- Twain, Mark, 369
- Twin Lakes (California), 285
- Twin Rivers (Nevada), 369
- Typha latifolia* (cattails),  
150



## U

Udall, Stewart, 334, 335  
 Uinta-LaSal National Forest,  
   251-254, 256, 257, 260-261,  
   265-266, 268, 283  
 U.S. Gypsum (Ohio), 453  
*U.S. Navy War Photographs*, 203  
 University of Arizona, 147  
 University of California (Ber-  
   keley), 77-78, 82, 143, 156,  
   293, 294  
 University of California  
   (Davis), 143  
 University of Nevada (Reno),  
   24-25, 280, 343-344, 386,  
   391, 406, 407-408, 409, 410-  
   414, 422, 429, 440, 448, 453  
 University of Wisconsin, 14  
*Utah's First Forests, First*  
*Seventy-Five Years*, 254  
 Utah State University (Logan),  
   368

## V

Valdez, Alaska, 452  
 Valley Mercantile Store (Ce-  
   darville, California), 245  
 Valparaiso University (Indi-  
   ana), 1  
 Van Arsdale, Waldo, 297, 400  
 Van der Kelen, Ronald, 417  
 Vargas, George, 298  
 Varner, Merle, 270  
*Vegetation of the Pacific*, 229  
 Verdi, Nevada, 255, 296, 352,  
   413  
 Verdi Peak (Nevada), 296  
 Verdi Ridge, 306  
 Vernal, Utah, 336  
 Vietnam, 439  
 Virginia Lake (California),  
   345, 398  
 Virginia Lake (Reno, Nevada),  
   423  
 Virginia and Truckee railroad  
   (V&T), 338  
 Volcano Creek (California),  
   348-349

## W

Waggoner, Charles, 260  
 Waikiki Beach (Hawaii), 240  
 Walker, California, 294  
 Walker basin (California-  
   Nevada), 143, 370  
 Wallace, Henry A., 167  
 Warner mountains (Califor-  
   nia), 75-76, 243, 245,  
   284  
 Warren, Wallie, 440  
 Wasatch mountain range  
   (Utah), 256, 265, 452  
 Washington, D.C., 188-189,  
   190, 191, 227, 230, 236-  
   237  
 Washoe County, Nevada, 145,  
   181, 245-246, 277, 302,  
   338, 383, 415, 431, 438  
 Washoe Development Corpora-  
   tion, 301-302  
 Washoe Valley (Nevada), 279  
 Water Conference, Nevada  
   (1950), 272-273  
 Watershed management, 327-  
   328, 365. *See also* Flood  
   control  
 Water supplies, 84-85, 257,  
   258-259, 290-291  
 Watkins, Arthur, 257  
 WAVE officers (Women Accepted  
   for Volunteer Emergency  
   Service, Navy), 238  
 Weather Bureau, U.S., 315  
 Weaverville, California, 29,  
   30, 58, 62, 72  
 Weed eradication, 94  
 Weed Heights, Nevada, 292  
 Wellington "Y" (Nevada), 408  
 Wells, Joe, 300  
 Wells, Nevada, 20  
 Wendover, Nevada, 20  
 Went, Frits, 64  
*West American Oaks* (Kellogg),  
   34-35, 63  
*Western Wildflowers, Their*  
*Stories and Legend*  
   (Saunders), 66-67  
 Wheeler, Sessions S. "Buck,"  
   42, 79, 316, 325-326, 384-  
   385, 386

Wheeler guard station (Nevada),  
284, 311, 358  
Wheeler Mountain (Nevada), 357,  
411  
Whitehorse (Yukon Territory,  
Canada), 450, 452, 455  
White House (Washington, D.C.),  
190  
White Pine County, Nevada, 366  
Whitney, Mt., 159, 161, 168  
Whitney Pass, 161  
Whittell, George, 87, 280, 281-  
282, 305, 321-322, 323, 325,  
339-340, 343-344, 406, 407-  
408, 414  
Whittell Forest, 344, 420  
Wilderness Act (1964), 336, 444  
Wilderness Society, National,  
329  
"Wildland Recreation Manage-  
ment," (Renewable Resource  
Program course, UNR), 411  
Wildlife Federation, Nevada,  
330, 405  
Wildlife management, 128, 131,  
164-167, 168, 170, 173-175,  
191, 254, 267, 269-271,  
280, 313-314, 387. *See*  
*also* Range management  
Wildlife Week poster contest,  
405  
Wild and Scenic River Act  
(1968), 445  
Willkie, Wendell, 164  
Willow Creek ranch (Califor-  
nia), 81-82, 367  
Wilson, (Secretary of Agri-  
culture), 166  
Winnemucca, Avery, 362  
Winnemucca, Nevada, 20  
Wolf Creek (California), 397  
Wood, Archie, 400  
Wood, William R., 343, 390  
Wood Collectors Society,  
International, 407  
Woods, Alma, 367, 381-382  
Woodside, California, 408  
Woolgrowers, Utah, 252

Wooster, Earl, 417  
Works Projects Administra-  
tion (WPA), 67-68  
World War I, 3, 4, 5, 242  
World War II, combat, 204-  
206, 211, 215-216  
Wright, Bill, 274

## Y

Yale University (New Haven,  
Connecticut), 390  
Yellow Jacket (Indian), 29  
Yerington, James, 338  
Yerington, Nevada, 292  
YMCA (Reno, Nevada), 307  
Yomba Indian School (Nevada),  
367, 371  
Yosemite National Park (Calif-  
ornia), 162, 345, 346,  
347, 379  
Young, Clifton "Cliff,"  
311, 326  
Yuba river (California), 410  
*Yucca whipplei* (angel's  
candlestick), 115-116

## Z

Zappatini, George, 314, 326,  
352  
Zephyr Cove, Nevada, 323,  
414  
Zephyr Point lookout (Nevada),  
288  
Zon, Rafial, 147